92-867

No. —

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In The

Supreme Court of the United States

October Term, 1992

TENAX CORPORATION, RDB PLASTOTECNICA S.p.A. and MARIO BERETTA,

Petitioners,

vs.

THE TENSAR CORPORATION,

Respondent.

Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

PETITION FOR A WRIT OF CERTIORARI

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QUESTIONS PRESENTED

Whether the United States Court of Appeals for the Federal Circuit has permitted a departure from precedent requiring proximate causation of damages in infringement actions, and in so doing, exposed small market entrants to unreasonable risks if they attempt to challenge the position of a market dominating patent owner.

In resolving this question, the Court will be presented with the following subsidiary question:

Should a patent owner be awarded "damages" based on an across-the-board foregone price increase where the small volume of sales activity of the accused infringer was not shown to be the proximate cause of that foregone price increase.

RULE 28.1 STATEMENT

Petitioners, Tenax Corporation and RDB Plastotecnica S.p.A. have no parent companies or subsidiaries apart from wholly-owned subsidiaries or affiliates.

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Respondent.

Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

PETITION FOR A WRIT OF CERTIORARI

Petitioners, Tenax Corporation, RDB Plastotecnica S.p.A. and Mario Beretta (hereinafter collectively referred to as "RDB"), respectfully pray that a writ of certiorari issue to review the judgment of the United States Court of Appeals for the Federal Circuit entered July 9, 1992 in this case.

OPINIONS BELOW

The Memorandum and Order of the United States District Court for the District of Maryland entering final judgment and, *inter alia*, denying RDB's motion for remittitur, is reported at 19 U.S.P.Q. 2d (BNA) 1881 (D. Md. 1991). The Memorandum and Order is reprinted in Appendix C at pp. 8a-46a.

On July 9, 1992 the Court of Appeals for the Federal Circuit entered judgment and affirmed the District Court without opinion. *See* Appendix A at pp. 1a-3a.

Related opinions below also include: Memorandum and Order of April 24, 1990 denying RDB's motion for partial summary judgment, 14 U.S.P.Q. 2d (BNA) 2049 (D. Md. 1990); Memorandum and Order of May 31, 1990 granting a motion for partial summary judgment, 15 U.S.P.Q. 2d (BNA) 1789 (D. Md. 1990); and Memorandum and Order of April 30, 1991 denying award of attorneys fees to RDB, 22 U.S.P.Q. 2d (BNA) 1264 (D. Md. 1991).

STATEMENT OF JURISDICTION

The judgment of the Court of Appeals for the Federal Circuit was entered July 9, 1992. The jurisdiction of this Court to review the decision of the Federal Circuit is invoked under 28 U.S.C. § 1254(1).

The case involves Section 284 of the Patent Act of 1952, 35 U.S.C. § 284 reprinted below.

§ 284. Damages

> Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no

> event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.
>
> When the damages are not found by a jury, the court shall assess them. In either event the court may increase the damages up to three times the amount found or assessed.
>
> The court may receive expert testimony as an aid to the determination of damages or of what royalty would be reasonable under the circumstances.

STATEMENT OF THE CASE

Jurisdiction of the District Court in this patent infringement case was invoked under 28 U.S.C. § 1338(a).

The Court of Appeals for the Federal Circuit affirmed an approximately six million dollar judgment rendered in favor of respondent The Tensar Corporation ("Tensar"). That judgment was for an alleged infringement of a process patent by the importation and gross sales of just about a half-million dollars of geogrid products that constituted about two percent of the market. The lion's share of the damage award is attributable to Tensar's theory of its entitlement to recover a "foregone price increase," across-the-board, for its ninety-eight percent market share. As applied, Tensar's theory is inconsistent with this Court's precedent and with basic precepts of tort law which establish the boundaries of proximate causation in the award of damages.

The Court of Appeals for the Federal Circuit has abdicated its responsibility to provide guidance for reasonable assessment of damages in patent cases, both in previous opinions and now in its

failure to correct the facially unreasonable award in this case.

As a result, the opportunity has been created for unjust enrichment of patentees through the imposition of monetary "punishments" that are all out of proportion to the infringement. That unjust enrichment can be seized with the simple assertion that "but for the presence of this infringer (who has only an insignificant market share), I the patentee would have charged more money, across the board, for the products sold under my patent." Even when that assertion is factually true, it is a disservice to both logic and policy to necessarily conclude that piddling sales are the proximate cause of enormous damages to be calculated by multiplying *every* sale of the patentee times the alleged foregone price increase. Yet, that is what happened here.

If an infringer has not competed for given sales, a foregone price increase for such sales should not be the infringer's *legal* responsibility, simply because the infringer was present in the marketplace. That is especially the case where, as here, no attempt was made to show that the customers, for whose sales the infringer did not compete, somehow used the infringer's existence as a bargaining tool. To hold otherwise would be to charge the infringer with remote damages.

The net effect of this damage calculus is that the larger the patent owner's sustained market share when compared to that of the accused infringer, the greater the damages that can be imposed on the accused infringer. Such an effect creates a deterrent to market entry by small entities who believe that the patent position of an industry giant is invalid or not infringed. It is one thing to properly saddle an adjudicated infringer with financial responsibility for infringement; it is quite another to impose damage awards proportioned to the size of the *patent owner's* market share without regard to proximate causation.

Background

This case was commenced with Tenax Corporation's complaint for a declaratory judgment of non-infringement of two patents, one for a product and one for a process, under which the Tensar Corporation sells, among other things, integral geogrid products.[1] Subsequent pleadings raised counterclaims for willful infringement, added Mario Beretta and RDB Plastotecnica S.p.A. as parties, and produced invalidity and unenforceability contentions.

Tensar disclaimed the product patent in the aftermath of a parallel proceeding before the International Trade Commission in which the administrative law judge determined that the product patent was unenforceable for fraud and that both patents were invalid. Appendix D at p. 81a. On the eve of trial below the fraudulent product patent was disclaimed.

The jury trial went forward on the process patent issues of validity, infringement, damages and willfulness. A jury verdict of validity, infringement and willfulness was accompanied by a damage award of $1,781,000. RDB's post-trial motion for reduction of that damage award was denied, Appendix D at pp. 21a-26a, as were the motions attacking the verdict of liability. Tensar's motions for increased damages and for attorneys' fees were granted.

The damage award included three components: $233,835 for lost profits on jobs lost to RDB, $190,668 for jobs which were won, but with price reductions which were given to win the sale from RDB; and $1,356,494 for allegedly foregoing a price increase on all sales across-the-board, whether or not RDB competed for them.

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1. Geogrid products are mesh structures used to stabilize soil in contexts such as slope and base reinforcement.

Appendix C at p. 21a. Only the last component is here challenged. The stated basis for denial of the motion for remittitur of the "foregone price increase" component of damages was that Tensar had proved causation-in-fact by proving the existence of only two suppliers for integral geogrids[2] and by presenting the testimony of two witnesses on the reason for foregoing the price increase. According to the trial judge, "[t]his evidence goes beyond mere speculation and establishes both [Tensar's] inability to raise its prices and the reason therefor." Appendix C at p. 23a. That statement was made and applied across-the- board without regard to whether or not RDB competed for particular jobs. It was also made in the face of an admission of a lack of evidence that RDB did not compete for all the jobs, competed for any jobs other than those already accounted for as lost sales or successful sales with price reductions, Appendix E at pp. 84a-85a, and in the face of the fact that RDB's infringing sales amounted to only one half million dollars — or about two percent of the market, Appendix E at p. 86a.

REASONS FOR GRANTING THE WRIT

A "pro-patent" orientation assumed by the Federal Circuit has routinely resulted in affirmance of disproportionately large awards of damages. This Court may take judicial notice of the writings appearing in the public press which document that pro-patent orientation.[3]

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2. Although *afterwards* relying on a two-supplier market as a basis for the award, the trial judge had said *during* trial: "I don't find . . . that there were only two competitors in the market", Appendix E at p. 85a, where integral geogrids were sold in competition with other geogrids.

3. *E.g.*, Michele Galen, *et al.*, *Is It time To Reinvent The Patent System?*, BUS. WK., Dec. 2, 1991, at 110 ("In case after case, the court ruled in favor of patent holders."); Andrew Pollack, *The New High-Tech Battleground*, N.Y. Times, July 3, 1988, § 3, at 1 (A change occurred with the advent of the Federal Circuit: "courts have not been hesitant to levy stiff penalties against infringers"; "[t]here is a danger that the intellectual property system . . . could instead be used as a tool to stifle innovation and limit competition."); Norm Alster, *New Profits From Patents*, FORTUNE, April 25,

(Cont'd)

The Federal Circuit has unfairly liberalized the criteria for awarding patent damages. As a result, damage awards are far out of proportion with the magnitude of the accused infringer's activity and inconsistent with the statutory format for compensation and punishment. This problem can be compounded by the uncertainty of jury verdicts.

Section 284 clearly provides a two-step approach to the award of damages, the two steps corresponding to the first two paragraphs of the section. Paragraph 1 authorizes an award of damages "adequate to compensate for the infringement"; paragraph 2 authorizes an increase of damages up to three-fold. The trebling provision was intended to punish and deter willful infringers. As Congress noted in enacting the predecessor to Section 284:

> [D]iscretion to award triple damages [and attorney's fees], will discourage infringement of a patent by anyone thinking that all he would be required to pay if he loses the suit would be a royalty.

S. Rep. No. 1503, 79th Cong., 2d Sess. 2 (1946), *reprinted in* 1946 U.S. Code Cong. Serv. 1386, 1387 (1946). The Federal Circuit has seemingly accepted this two-step approach in the abstract.[4]

(Cont'd)

1 1988, at 185 ("the pendulum has swung so decisively in favor of patent owners that more and more mind-boggling sums are being demanded"); Joseph F. Dunphy, *Washington's Propatent Court*, CHEM. WK., Dec. 24, 1986 at 15; Clemens P. Work, *Inventors' Just Rewards*, U.S. NEWS & WORLD REPORT, Mar. 3, 1986, at 43 ("Much of today's pro-patent sentiment comes from the U.S. Court of Appeals for the Federal Circuit"); Eric Schmitt, *Judicial Shift In Patent Cases*, N.Y. Times, Jan. 21, 1986, § D, at 2, col. 1, ("The greatest impetus to the pro-patent shift took place when . . . the . . . Court of Appeals for the Federal Circuit was formed.").

4. *Compare Paper Converting Machine Co. v. Magna-Graphics Corp.*, 788 F.2d 1536, 1537 (Fed. Cir. 1986) (The "treble damages award is by definition largely in

(Cont'd)

However, calculation of damages based on a foregone price increase without proximate causation is not a proper mechanism for compensation. Nor is it a proper punishment or deterrent mechanism under the statute. The statute provides for compensation based upon damages proximately caused by competition and permits punishment, as a deterrent, based upon trebling of those proximately caused damages. If damages far beyond damages proximately caused are sanctioned as a deterrent in the first instance, the award, even without trebling, can exceed the maximum amount which the statute envisages, *i.e.*, it can exceed the amount of trebled, proximately caused damages. Moreover, if damages beyond those proximately caused are in the first instance allowed in the name of punishment or deterrence, and then those damages are trebled, the result is a double or multiple punishment not contemplated by the statute. Such inflated awards contravene the legislative scheme to provide reasonable compensation to the patentee and to permit enhancement of damages by no more than trebling them as a deterrent or punishment.

Approval of awards of damages for allegedly foregoing price increases across-the-board without requiring adherence to a standard of strict proof of proximate causation will have an adverse impact on patent litigation in the district courts. Under analogous theories, patent damages could be based on similar flimsy or imaginary injuries, whose true causes are remote. For example, a patentee who undertakes a multi-million dollar advertising campaign could attribute the need for the advertising to the small market presence of the accused infringer, and thereby recover the full cost of the advertising as damages without regard to whether

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excess of the actual injury . . . .") *with Beatrice Foods Co. v. New England Printing and Lithographing Co.*, 923 F.2d 1576, 1579 (Fed. Cir. 1991) ("It is the actual damages determined pursuant to the first paragraph of section 284 — and not the enhanced damages determined pursuant to the second paragraph of that section — that measures the adequacy of the award to compensate the patentee for the infringement.").

competition from the accused infringer actually occurred.

The deterrent which such a damage calculus has to market entry by small entities is self evident and discourages challenges to patents by such entities. Moreover, the damage calculus approved by the Federal Circuit also presumes that the same injury results when an accused infringer has a small volume of sales as when the accused infringer has a large market presence. Accordingly, against that legal backdrop, an accused infringer would have no incentive to discontinue infringing sales voluntarily, since volume of the infringing sales has no effect on the amount of the award.

I. THE FEDERAL CIRCUIT HAS ENCOURAGED RUNAWAY PATENT DAMAGE AWARDS

The Federal Circuit has repeatedly stated that "any doubts regarding the amount [of the damage award] must be resolved against the infringer." *See, e.g., Lam, Inc. v. Johns-Manville Corp.*, 718 F.2d 1056, 1065 (Fed. Cir. 1983); *Kaufman Co. v. Lantech, Inc.*, 926 F.2d 1136, 1141 (Fed. Cir. 1991).

In *Weinar v. Rollform, Inc.*, 744 F.2d 797 (Fed. Cir. 1984), *cert. denied*, 470 U.S. 1084 (1985), the Federal Circuit found proper a damage award greater than the infringer's gross sales.

In *TWM Mfg. Co. v. Dura Corp.*, 789 F.2d 895 (Fed. Cir. 1986), *cert. denied*, 479 U.S. 852 (1986), the Federal Circuit affirmed a $31,000,000 damage award, of which only very little represented damages based on actual infringing sales, the balance being made up of damages for sale of unpatented products, punitive damages and prejudgment interest.

In *Snellman v. Ricoh, Co.*, 862 F.2d 283, 289 (Fed. Cir. 1988), *cert. denied*, 491 U.S. 910 (1989), the Federal Circuit approved an award for damages for non-willful infringement which was four

times the total revenues realized by the accused infringer on infringing sales.

In *Kalman v. Berlyn Corp.*, 914 F.2d 1473 (Fed. Cir. 1990), the Federal Circuit approved an award containing a component for actual diverted sales *and* an additional sum for price depression - even though the infringer's prices were actually higher than the authorized seller. The patent owner's testimony that he "would have certainly charged a higher price" was found sufficient for an award of damages based on a possible price increase of 15%. *Id.* at 1485.

Tensar invoked these very decisions in its brief to the Federal Circuit, and obtained a summary affirmance of an award twelvefold greater than RDB's sales. These decisions have clearly led here to an outrageous damage award. Such awards threaten the "careful balance" embodied in the patent laws that seeks to protect competition as well as to promote invention. *See Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S 141, 146-47 (1989).

The approach to damages mandated by the foregoing Federal Circuit decisions is inconsistent with the policy of the patent laws to promote free competition through improvement and refinement of existing technologies. Healthy operation of the system requires that challenges be made to both the scope and validity of patents resulting from the secret, *ex parte* examination of the Patent Office.[5] *See Lear, Inc. v. Adkins*, 395 U.S. 653, 669-74 (1969). Such healthy operation of the system is impeded when the risk of incurring unreasonable damages for a very small volume of sales

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5. Indeed, the litigation between the parties here resulted in the demise of one of the two involved patents. In a parallel proceeding before the International Trade Commission, the administrative law judge found Tensar's product patent unenforceable for fraud. Appendix D at p. 81a. Although the decision was subsequently vacated because complete relief was afforded to Tensar in the District Court on the process patent, Tensar disclaimed the product patent. Thus, a fraudulently procured patent was eliminated by RDB's challenge.

creates a substantial deterrent to small potential market entrants who might otherwise challenge improvidently granted patents. That deterrent to challenging the scope and validity of patents is even greater where, as here, the huge damages for a small volume of sales can be trebled because the infringement is found to be willful.[6]

II. THE REJECTION OF A PROXIMATE CAUSATION ELEMENT IN EVALUATING PATENT DAMAGE AWARDS CONFLICTS WITH CONTROLLING PRECEDENT OF THIS COURT

The appropriate reference point for evaluating proximate causation is infringing competition, not just an infringer's small market place presence. That principle was established more than a century ago in *Boesch v. Graff*, 133 U.S. 697 (1890). *Boesch*, like the present case, involved an apparent attempt to recover for an across-the-board lower price that was claimed to be the legal responsibility of an infringer who had achieved only a minuscule market share.[7] The Court said an assertion that the plaintiff "has been compelled to lower his prices to compete with an infringing defendant" must be supported by proof that plaintiff did so "due *solely* to the acts of the defendant, *or* to what *extent* it was due to such acts." *Id.* at 706 (emphasis added).

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6. RDB's non-infringement position was rejected by the trial court. In the words of Tensar's expert, since RDB knew of the patent and since it "turned out" that RDB's process was found to be within the scope of the patent, that amounted to not only infringement but to willful infringement. Appendix E at p. 83a. However, a recent bench decision by the British High Court of Justice held that the same RDB products do not infringe the British patents corresponding to the patents in suit here. Appendix F at pp. 87a-92a. The British Court, like the ITC, also found the involved British patent claims invalid. *Id.* RDB's challenge to Tensar's process patent position has thus been successful at least in Britain.

7. In *Boesch* the lower price was an across-the-board reduction from a former price, rather than the foregone price increase invoked here by Tensar. However, analysis of the Court's holding reveals that difference to be a factual distinction without legal significance.

As noted above, Tensar was awarded $233,835 for profits lost on jobs lost to RDB. Tensar also established the extent to which jobs were won by Tensar on the basis of price reduction because of RDB, and Tensar was accordingly also awarded damages for those jobs in the amount of $190,668. Neither award is challenged here. However, Tensar did not demonstrate any further damages "*solely*" due to the acts of RDB or an "*extent*" of damage beyond these awards from competition by RDB. Indeed, it was admitted that there was no evidence of RDB competition beyond those jobs which resulted in the here unchallenged components of the damage award. Appendix E at pp. 84a-85a. Accordingly, it was an error for the Court to refuse remittitur of the $1.3 million additional award based on foregone price increase.

In the words of the *Boesch* Court, it cannot be concluded that the minuscule sales by RDB "under the circumstances detailed could have had the effect in compelling a reduction of price which has been ascribed to it." *Id.* at 707. Without proof that the foregone price increase was necessitated *solely* by RDB's acts or to what *extent* it was necessitated by those acts, damages for the lower prices cannot stand as RDB's legal responsibility. *Id.* at 708; *see also, Cornely v. Marckwald,* 131 U.S. 159, 161 (1889). The award here is, thus, in conflict with this Court's precedent.

III. REJECTION OF A PROXIMATE CAUSATION ELEMENT CONFLICTS WITH BASIC TORT LAW PRINCIPLES AS APPLIED IN THE CONTEXT OF OTHER COMPETITIVE TORTS.

Causation-in-fact and proximate cause are separate concepts. That is literally Hornbook law.

> Once it is established that the defendant's conduct has in fact been one of the causes of the plaintiff's injury, there remains the question whether the defendant should be legally responsible for the injury. Unlike the *fact* of causation, with which it is often hopelessly confused, this is primarily a problem of *law*.
>
> * * *
>
> The term "proximate cause" is applied by the courts to those more or less undefined considerations which limit liability even where the fact of causation is clearly established. The word "proximate" ... is an unfortunate word, which places an entirely wrong emphasis upon the factor of physical or mechanical closeness. For this reason "legal cause" or perhaps even "responsible cause" would be a more appropriate term.

W. Page Keeton Et Al., *Prosser and Keeton on the Law of Torts* § 42, at 272-73 (5th ed. 1984) (emphasis added). In short, Tensar is not automatically entitled to recover across-the-board damages for every successful sale simply because its across-the-board decision

to forego the increase was said to be influenced by RDB's allegedly infringing presence in the marketplace. At most, that merely establishes causation-in-fact; it does not resolve the question of legal responsibility which additionally must be addressed as a proximate cause issue. The legal responsibility question should be resolved in RDB's favor.

As illustrated by *Boesch, supra,* a concept at least similar to proximate cause was recognized early by this Court in patent infringement cases. This Court has more recently discussed the applicability of proximate cause in the connection with the damage provisions of the Clayton Act, 15 U.S.C. § 15 . In *Associated General Contractors of California, Inc. v. California State Council of Carpenters,* 459 U.S. 519 (1983), while noting that a literal reading of that statute would broadly encompass every harm that can be attributed directly or indirectly to the consequences of an antitrust violation, *id.* at 529, the Court concluded that Congress assumed that "antitrust damage litigation would be subject to constraints comparable to well-accepted common-law rules applied in comparable litigation", *id.* at 533, such as "foreseeability, proximate cause, directness of injury, certainty of damages, and privity of contract", *id.* at 532-33.

Proximate cause has also been recognized as a necessary element of proof in other infringement contexts. That is because:

> [T]he question of whether specific profits were made from an infringement is similar to that of proximate cause in the tort context: just as there comes a point beyond which effects cannot *legally* be attributed to an initial tortious action, so too there comes a point beyond which an infringer's profits, from its enterprises as a whole, cannot legally be attributed to a particular act of infringement.

Frank Music Corp. v. Metro-Goldwyn-Mayer Inc., 886 F.2d 1545, 1553 (9th Cir. 1989) *cert. denied*, 494 U.S. 1017 (1990). The same rule should apply in patent infringement cases.

CONCLUSION

District Courts hearing patent infringement cases require guidance concerning the handling of patent damage claims. The Federal Circuit is the sole Court of Appeals addressing patent damage issues, and the other circuits cannot help bring the rules of decision into accord with prior Supreme Court precedent and with tort principles reflected in other kinds of infringement cases. This Court should grant certiorari to authoritatively establish that proximate causation remains a necessary element of a claim based on the tort of patent infringement, and to reconfirm that where a patentee makes a subjective pricing determination which allegedly affects his profits, infringement is the proximate cause of the allegedly reduced profits only if it is established that the allegedly reduced profits are due *solely* to the acts of the infringer *or* to what *extent* they are due to such acts. The *Boesch* case requires as much.

Proof of price reduction to combat actual competition establishes proximate causation. Proof of mere existence of the infringer in the marketplace does not. Tensar has been specifically and separately awarded $233,835 in compensation for jobs lost in head-to-head competition and $190,668 in compensation for price reductions caused by actual head-to-head competition. It is not entitled to the huge additional award based on foregone price increases on jobs where there was no proof of competition.

In view of the failure of the Federal Circuit and the District Court to apply the *Boesch* requirements, it is apparent that the exercise of this Court's authority to clarify the matter is necessary. The need for such a review is made palpable by the outrageous

award of nearly six million dollars based on a mere half million dollars in total sales made by the accused infringer.

Respectfully submitted,

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APPENDIX A
UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT, APPEAL NO. 91-1322, -1353: NOTICE OF ENTRY OF JUDGMENT WITHOUT OPINION

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

NOTICE OF ENTRY OF JUDGMENT WITHOUT OPINION

JUDGMENT ENTERED: JUL[Y] 9 1992

The judgment of the court in your case was entered today pursuant to Rule 36. No opinion accompanied the judgment. The mandate will be issued in due course.

Costs may be recoverable under Rule 39. A party entitled to costs is provided with a bill-of-costs form and an instruction sheet with this notice.

The parties are encouraged to stipulate to the costs. A bill of costs will be presumed correct in the absence of a timely filed objection.

Costs when taxed are payable to the party awarded its costs. If costs are awarded to the government, they should be paid to the Treasurer of the United States. Payment should be made to counsel for the party awarded costs or, if the party is not represented by counsel, to the party pro se. Costs should be paid promptly.

Exhibits and visual aids shall be promptly retrieved by the party that lodged them with this court.

FRANCIS X. GINDHART
Clerk

TENAX CORP V TENSAR CORP, 91-1322
(DCT MD - H89-424)

Appendix A

Note: Pursuant to Fed. Cir. R. 47.8, this disposition is not citable as precedent. It is a public record. The disposition will appear in tables published periodically.

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

91-1322, -1353

TENAX CORPORATION,

Plaintiff/Counterclaim Defendant-Appellant,

and

RDB PLASTOTECNICA S.p.A. and MARIO BERETTA,

Counterclaim/Defendants-Appellants,

v.

THE TENSAR CORPORATION,

Defendant/Counterclaim Plaintiff-Cross/Appellant.

JUDGMENT

ON APPEAL from the UNITED STATES DISTRICT COURT, DISTRICT OF MARYLAND in CASE NO(S). H89-424.

This CAUSE having been considered, it is

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ORDERED and ADJUDGED: Per Curiam (NIES, *Chief Judge*, RICH, *Circuit Judge*, and RESTANI*, *Judge*):

AFFIRMED. *See* Fed. Cir. R. 36.

ENTERED BY ORDER OF THE COURT

s/ Francis X. Gindhart

Francis X. Gindhart, Clerk

DATED: JUL[Y] 9 1992

[FILED: JUL[Y] 9 1992]

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* Honorable Jane A. Restani, U.S. Court of International Trade, sitting by designation.

APPENDIX B
UNITED STATES DISTRICT COURT FOR THE DISTRICT OF MARYLAND, CIVIL ACTION NO. H-89-424: REVISED JUDGMENT AND PERMANENT INJUNCTION

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

Civil Action No. H-89-424

TENAX CORPORATION,

Plaintiff and Counter-
claim Defendant,

v.

THE TENSAR CORPORATION,

Defendant and Counter-
claim Plaintiff,

v.

RDB PLASTOTECNICA S.p.A.,

and

MARIO BERETTA, an individual,

Counterclaim Defendants

REVISED JUDGMENT AND PERMANENT
INJUNCTION

The Court having entered a Judgment and Permanent Injunction on November 23, 1990, following a full trial and return of the jury of its General Verdict and Written Interrogatories on

of the jury of its General Verdict and Written Interrogatories on November 20, 1990, and the Court by Order of December 13, 1990 having granted a stay of execution on the money judgment set forth in paragraph 5 of the Judgment and Permanent Injunction upon the condition that Plaintiffs post an appropriate bond in the amount of $1,807,000.00, and the Court having ruled on post-trial motions by Memorandum and Order dated April 3, 1991 which bear on certain provisions of the Judgment and Permanent Injunction,

IT IS HEREBY FURTHER ORDERED AND ADJUDGED as follows:

1. As used herein the following are defined terms:

a. "RDB" shall refer to RDB Plastotecnica S.p.A.

b. "Tenax" shall refer to Tenax Corporation.

c. "Beretta" shall refer to Mario Beretta.

d. "Tensar" shall refer to The Tensar Corporation.

2. Claims 1, 2, 3, 4, 6, 7, 14, 17, 18 and 21 of U.S. Patent No. 4,374,798, and each of them, are valid.

3. Tenax and RDB have infringed each of claims 1, 2, 3, 4, and 6 of U.S. Patent No. 4,374,798 by importing into the United States and selling and using within the United States after February 23, 1989, the uniaxial geogrid products identified as the TT-AMP series geogrids made in accordance with the methods set forth in such claims.

4. Tenax and RDB have infringed each of claims 7, 14, 17, 18 and 21 of U.S. Patent No. 4,374,798 by importing into the United

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States and selling and using within the United States after February 23, 1989, the biaxial geogrid products identified as the LBO and LBO-AMP series geogrids made in accordance with the methods set forth in such claims.

5. Beretta has infringed each of claims 1, 2, 3, 4, 6, 7, 14, 17, 18 and 21 of U.S. Patent No. 4,374,798 by inducing the infringement of such claims by RDB and Tenax as set forth in paragraphs 3 and 4 above.

6. Damages for patent infringement having already been awarded to Tensar and against Tenax/RDB/Beretta, jointly and severally, in the amount of $1,781,000.00, the damages are hereby increased in accordance with 35 U.S.C. § 284 by an additional amount of $3,562,000.00, thus resulting in the award of total damages to Tensar and against Tenax/RDB/Beretta, jointly and severally, in the amount of $5,343,000.00.

7. Tenax, RDB and Beretta, and their respective officers, agents, servants, employees, and attorneys, and all persons in active concert or participation with them who receive actual notice of this Order, are hereby permanently enjoined, during the unexpired term of U.S. Patent No. 4,374,798, from importing, making, using or selling in the United States any of the geogrid products identified as the TT-AMP series, LBO series and LBO-AMP series geogrid products, or any colorable imitation thereof, or otherwise importing, making, using or selling in the United States any product made by a method which infringes any of claims 1, 2, 3, 4, 6, 7, 14, 17, 18 and 21 of U.S. Patent No. 4,374,798.

8. Tensar is hereby awarded prejudgment interest against Tenax/RDB/Beretta, jointly and severally, in the amount of $110,184.00.

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9. Execution of the money judgments entered herein is hereby stayed upon the condition that Tenax/RDB/Beretta post, on or before May 1, 1991, a further bond, in a form similar to the previous bond, in the additional amount of $3,612,184.00.

10. Tensar is hereby awarded its reasonable attorneys' fees and costs against Tenax/RDB/Beretta in an amount to be determined by the Court at a later date, after appellate proceedings have been concluded.

11. Judgment has been entered in favor of Tenax/RDB/Beretta on Count II (trade dress) of Tensar's Counterclaim.

12. Plaintiffs' claim for tortious interference in connection with U.S. Patent No. 4,756,946 (asserted in Count III of Plaintiff's Third Amended Complaint, filed December 1, 1989), which was bifurcated pursuant to Rule 42(b) of the Federal Rules of Civil Procedure by Order of this Court entered November 16, 1990, is hereby dismissed, without prejudice, subject to the right of Plaintiffs to reinstitute the claim without bar by the Statute of Limitations only in the event this judgment with respect to U.S. Patent No. 4,374,798 is reversed or vacated on appeal.

ENTERED, ADJUDGED, AND DECREED this 16th day of April, 1991.

s/ Alexander Harvey, II
Senior United States District Judge

APPENDIX C
UNITED STATES DISTRICT COURT FOR THE DISTRICT OF MARYLAND, CIVIL ACTION NO. H-89-424: MEMORANDUM AND ORDER DATED APRIL 3, 1991

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

CIVIL NO. H-89-424

TENAX CORPORATION,
Plaintiff and Counterclaim Defendant

vs.

TENSAR CORPORATION,
Defendant and Counterclaim Plaintiff

vs.

RDB PLASTOTECNICA, S.p.A. and MARIO BERETTA
Counterclaim Defendants

MEMORANDUM AND ORDER

Following extensive pretrial proceedings, this patent case came on for trial before a jury commencing on October 11, 1990. The trial lasted for some 20 days over a period of seven weeks. After deliberating for 8-1/2 hours over a period of two days, the jury returned its verdict on November 20, 1990. The jury found for defendant and counterclaim plaintiff Tensar Corporation (hereinafter "Tensar" or "defendant") and awarded damages in the amount of $1,781,000 against plaintiff and counterclaim defendant Tenax Corporation and counterclaim defendants RDB Plastotecnica, S.p.A. and Mario Beretta (hereinafter collectively

"Tenax" or "plaintiffs"). In its Written Interrogatories, the jury made the following findings:

(1) That the five uniaxial claims and the five biaxial claims of the patent in suit were valid;

(2) That the method used by plaintiffs to manufacture the TT-AMP, the LB0 and the LBO-AMP Series geogrids infringed the uniaxial and the biaxial claims of the patent in suit;

(3) That counterdefendant Beretta induced infringement of the uniaxial and the biaxial claims of the patent in suit;

(4) That defendant Tensar had proved by clear and convincing evidence that plaintiffs' infringement was willful;

(5) That defendant Tensar was entitled to an award of damages in the amount of $1,781,000; and

(6) That plaintiffs Tenax/RDB had infringed the trade dress embodied in defendant Tensar's geogrids.

The parties have now filed numerous post trial motions. Plaintiffs' pending motions are as follows:

(1) Motion for judgment notwithstanding the verdict (hereinafter "n.o.v.") or in the alternative for a new trial on patent infringement;

(2) Motion for a new trial on the issue of willful infringement;

(3) Motion for remittitur; and

(4) Motion for judgment n.o.v. or in the alternative for a new trial on Count II of defendant's counterclaim (Tensar's trade dress claim).

Defendant Tensar in turn has filed the following motions:

(1) Motion for increased damages and attorneys' fees;

(2) Motion for prejudgment interest;

(3) Motion for permanent injunction against trade dress infringement; and

(4) Bill of costs.

Extensive memoranda and numerous exhibits have been filed in support of and in opposition to all of these pending motions. A hearing on these motions was held in open Court on February 19, 1991. At the hearing, the Court indicated that it would not at this time consider the amount of attorneys' fees or costs sought by defendant Tensar in its motion for attorneys' fees and in its bill of costs. These matters may be presented to the Court following appeal or, if there is no appeal, following this Court's final determination as to the prevailing party or parties in this case.

After due consideration of the pending motions, the memoranda and exhibits that have been filed and its extensive trial notes, this Court has concluded that all of plaintiffs' motions should be denied except for plaintiffs' motion for judgment n.o.v. on Count II of defendant's counterclaim, which will be granted. All of defendant's motions presently before the Court will be granted except for defendant's motion for permanent injunction against trade dress infringement, which will be denied.

Appendix C

I

Background Facts

On February 9, 1989, plaintiff Tenax filed suit in this Court against defendant Tensar, seeking, *inter alia*, a declaratory judgment that its processes and products did not infringe either United States Patent No. 4,374,798 issued February 22, 1983 (hereinafter the "Process Patent") or United States Patent No. 4,756,946 issued July 12, 1988 (hereinafter the "Product Patent"). Defendant Tensar, the exclusive licensee of both patents, counterclaimed against Tenax, RDB Plastotecnica, S.p.A. and Mario Beretta, alleging, *inter alia*, that plaintiffs' products infringed both patents and asserting a claim for trade dress infringement against Tenax and RDB.[1]

Extensive discovery then proceeded, and motions for partial summary judgment were filed by the parties. In its Memorandum and Order of April 24, 1990, the Court denied plaintiffs' motion for partial summary judgment on the issues of infringement and invalidity. In its Memorandum and Order of May 31, 1990, the Court granted defendant's motion for partial summary judgment on the issue of misappropriation. Those rulings included a detailed discussion by the Court of the background facts pertaining to this litigation, and that discussion will not be repeated here.

Besides litigating their dispute in this Court, the parties were at the same time engaged in proceedings before the International

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1. In its counterclaim, defendant alleged not only that plaintiffs had infringed both the Process and the Product Patents, but also that plaintiffs had infringed United States Patent No. 4,503,622 (hereinafter the "Use Patent"). Later, that claim was voluntarily dismissed prior to trial.

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Trade Commission (hereinafter the "ITC") involving substantially similar issues. On September 21, 1990, Administrative Law Judge Saxon of the ITC (ALJ Saxon), following an evidentiary hearing, issued her Initial Determination, ruling on issues presented to the ITC in the administrative proceedings.

In a Memorandum of over 150 pages, ALJ Saxon made various preliminary determinations with respect to the patents at issue. She determined that both the Process Patent and the Product Patent were invalid under 35 U.S.C. § 102(b) because, in light of the prior art, the teachings of the patents would be obvious to one skilled in the art. She further determined that the Product Patent was unenforceable because the patentee engaged in inequitable conduct during its prosecution. Lastly, ALJ Saxon ruled that, were the patents valid and enforceable, it would be found that each claim of both patents had been literally infringed and that Mario Beretta had induced infringement of both patents. Shortly thereafter, on October 2, 1990, defendant disclaimed and dedicated to the public United States Patent No. 4,756,946, the Product Patent.

As a result of this development, the issues to be presented to the jury at the trial of this case were altered. At a pretrial conference held on October 5, 1990, plaintiffs and defendant agreed to a dismissal of all claims which related to the Product Patent with the exception of plaintiffs' claim of tortious interference with their contractual relationships alleged in Count III of the third amended complaint.[2] At the time of trial, the following issues remained: (1) whether the Tenax TT-AMP, LBO, and LBO-AMP products infringed the Process Patent; (2) whether the Process Patent was

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2 At a hearing held before the start of the trial on October 11, 1990, the Court bifurcated and reserved for later trial plaintiffs' claim of tortious interference with reference to the Product Patent.

invalid under federal patent law; (3) whether plaintiffs had willfully infringed the Process Patent; (4) whether counterclaim defendant Beretta had induced infringement of the Process Patent; (5) whether plaintiffs were liable for trade dress infringement and (6) the amount of damages, if any, to be awarded to defendant Tensar.

The jury returned its verdict on November 20, 1990. After considering submissions of the parties, the Court entered a Judgment and Permanent Injunction on November 23, 1990. The pending post trial motions were thereafter timely filed by the parties.

II

Applicable Standards of Review

Motion for Judgment n.o.v. and for a New Trial

Pursuant to Rules 50(b) and 59, F.R.Civ.P., plaintiffs have moved for judgment n.o.v. or for a new trial on the issues of patent infringement and trade dress infringement. Plaintiffs also seek a new trial on the issue of willful infringement. In *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 857 (1984), the Federal Circuit set forth the applicable standards to be applied by a trial court in considering a motion for judgment n.o.v., as follows:

> When a party moves for JNOV, the trial court must consider all the evidence in a light most favorable to the non-mover, must draw reasonable inferences favorable to the nonmover, must not determine credibility of

> witnesses, and must not substitute its choice for that of the jury between conflicting elements in the evidence. Following those guidelines, the court determines whether the evidence so viewed constitutes "substantial evidence" in support of the jury's findings and, if so, whether those findings can support the legal conclusions necessarily drawn by the jury in accord with its instructions en route to its verdict. "Substantial evidence" is such relevant evidence from the record taken as a whole as might be accepted by a reasonable mind as adequate to support the finding under review. In sum, only when the court is convinced upon the record before the jury that reasonable persons could not have reached a verdict for the non-mover, should it grant the motion for JNOV.

(citations omitted); *see also Wyatt v. Interstate & Ocean Transport Co.*, 623 F.2d 888, 897 (4th Cir. 1980).

The applicable standard for ruling on a motion for a new trial differs somewhat. The Fourth Circuit has held that, in ruling on a motion for a new trial:

> a trial judge has a duty to set aside a verdict and grant a new trial even though it is supported by substantial evidence, if "he is of the opinion that the verdict is against the clear weight of the evidence or is based upon evidence which is false or will result in a miscarriage of justice. . . ."

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Gill v. Rollins Protective Services Co., 773 F.2d 592, 594 (4th Cir. 1985), citing *Wyatt*, 623 F.2d at 891-92. The granting or denial of a motion for a new trial is a ruling committed to the sound discretion of the trial court. *Gill*, 773 F.2d at 595. The burden of showing error rests on the party seeking a rehearing on the merits. 11 C. Wright and A. Miller, *Federal Practice and Procedure*, Civil § 2083, at 32 (1973).

III

Patent Infringement

Plaintiffs have moved for judgment n.o.v. or for a new trial on the issue of patent infringement, claiming that the jury's verdict is internally inconsistent and unsupported by the evidence. Specifically, plaintiffs contend that the jury determined that the Process Patent was both valid and infringed only by applying inconsistent definitions of "substantially uniplanar" to the issues of validity and infringement. In their post trial motions, plaintiffs have not challenged the jury's determination that the claims of the Process Patent were valid but rather have attacked the jury's determination of infringement.

During prosecution of the Process Patent, Dr. Frank Mercer, the patentee, distinguished the teachings of this patent from prior art represented by U.S. Patent No. 4,123,491 (Larsen) and U.S. Patent No. 3,252,181 (Hureau) on the ground that the processes taught by the prior art employed a biplanar starting material while the Mercer process required a uniplanar starting material. It is apparent that the jury accepted this distinction and determined that the Process Patent was not anticipated by prior art.

At trial, plaintiffs contended (as they had in their pretrial

motion for partial summary judgment) that, because their process followed the prior art previously distinguished as biplanar, plaintiffs' process did not infringe the Process Patent. These contentions were rejected by the jury, which determined on the evidence presented that the Process Patent had been infringed. Plaintiffs challenge this determination, contending that the jury applied inconsistent definitions of substantial uniplanarity to the issues of validity and infringement, and that the Court must overturn the verdict of infringement in order that the definition be applied consistently to all issues. *See Loctite Corp. v. Ultraseal, Ltd.*, 781 F.2d 861, 870-71 (Fed. Cir. 1985) (claim interpretation must be the same for infringement and validity).

Plaintiffs' contentions are without merit. In its Memorandum and Order of April 24, 1990 denying plaintiffs' motion for partial summary judgment, this Court determined that the definition of uniplanarity was a question of fact for the jury. At the trial, the issue of patent infringement was vigorously contested and, over a period of some 20 days, a large amount of evidence directed to this issue was presented to the jury by both sides. The jury had before it on this issue exhibits, physical evidence and the conflicting testimony of various witnesses. It was for the jury to assess the credibility of the witnesses who testified and thereby resolve the conflicts. After considering all the evidence, the jury determined that the Process Patent had been infringed. On the record here, this Court cannot say that the evidence presented at trial was such that reasonable persons could not have returned a verdict for defendant Tensar on the issue of infringement.

As a part of its case, defendant Tensar presented evidence indicating that plaintiffs did not use the specific process covered by the Hureau and Larsen patents. Defendant demonstrated that plaintiffs used an expanding mandrel, the diameter of which was substantially larger than the diameter of the extrusion die. There

was testimony that neither the Larsen process nor the Hureau process used an expanding mandrel of that diameter, and this evidence refuted plaintiffs' assertion that their process mirrored the prior art. There was also evidence that the die members of plaintiffs' process differed from those of Larsen and Hureau, producing a material with greater uniplanarity. Many of defendant's witnesses, including Dr. Frank Mercer, Mr. Robert Gregory, Mr. Keith Martin and Mr. John Witherspoon, testified that plaintiffs' starting material was substantially uniplanar.

It is apparent from its verdict that the jury accepted the testimony of defendant's witnesses and agreed with defendant's characterization of the starting material used by plaintiffs as being substantially uniplanar. In ruling on this motion, this Court may not substitute its choice of conflicting evidence for that of the jury. On the record here, it cannot be said that defendant failed to produce substantial evidence on the issue of infringement such that no reasonable jury could have found for defendant on this issue. Accordingly, plaintiffs' motion for judgment n.o.v. on the issue of infringement will be denied.

For like reasons, plaintiffs' motion for a new trial on the issue of infringement will be denied. Given the large amount of evidence presented by the defendant in support of its contention that plaintiffs had infringed the patent claims in suit, this Court does not find that the verdict was against the clear weight of the evidence, was based on false evidence, or resulted in a miscarriage of justice. Rather, there was ample evidence produced at trial to support the jury's award. Thus, a new trial is not warranted.

IV

Willful Infringement

Plaintiffs have moved for a new trial on the issue of willful

infringement, contending that defendant failed to prove willfulness by clear and convincing evidence and that the jury should have had the opportunity to consider other relevant evidence, including the Initial Determination of ALJ Saxon, the brief of the Commission's Staff Attorney in the ITC case, and other evidence relating to the Product Patent.

A finding of willful infringement is a finding of fact, not a conclusion of law. *Bott v. Four Star Corp.*, 807 F.2d 1567, 1572 (Fed. Cir. 1986). When a potential infringer has actual notice of another's patent rights, he has the duty to exercise due care to determine whether or not he is infringing, including the duty to seek and obtain competent legal advice before engaging in activity that may result in infringement. *Bott*, 807 F.2d at 1572. Obtaining an opinion of counsel after manufacture of the infringing device and after receipt of a notice of infringement has been held to indicate that the infringer was not acting in good faith. *Dickey-John Corp. v. International Tapetronics Corp.*, 710 F.2d 329, 348 (7th Cir. 1983). Willfulness is to be determined from the totality of the circumstances presented in the case. *Central Soya Co. v. Geo. A. Hormel & Co.*, 723 F.2d 1573, 1577 (Fed. Cir. 1983).

At trial, plaintiffs presented the testimony of Morton Rosenberg, a patent attorney, who testified that in May or June of 1989, he rendered an oral opinion to Augusto Bazzocchi that Tenax and RDB had excellent defenses to the charge of infringement. Mr. Rosenberg testified that in making this determination he reviewed the patent, its prosecution history, the RDB process and other pertinent materials. Mr. Rosenberg also testified that, based upon his review of these materials, he determined that the patent was invalid.

Plaintiffs contend that Mr. Rosenberg's testimony was

unrebutted at trial and that, as a consequence, there exists no evidence to support the jury's determination of willfulness. However, pursuant to the Court's instructions, the jury had the responsibility of assessing the credibility of all the witnesses, including that of Mr. Rosenberg. The jury had the right, after hearing both the direct and the cross-examination, to disregard Mr. Rosenberg's testimony in its entirety.

Moreover, defendant presented substantial evidence at the trial in support of its contention that plaintiffs acted willfully. There was evidence that plaintiffs were aware of the geogrid technology in 1983,[3] yet began to manufacture and produce an identical product long before seeking Mr. Rosenberg's opinion. Indeed, it is not disputed that plaintiffs did not even seek Mr. Rosenberg's opinion until their customers had received letters from defendant informing them of defendant's patent rights and plaintiffs' possible infringement. Defendant also introduced evidence at the trial indicating that plaintiffs had, before obtaining Mr. Rosenberg's opinion, received two written opinions on the issue of infringement from Italian counsel, the contents of which plaintiffs chose not to disclose as a part of their evidence. Mr. Rosenberg admitted that he had never seen these opinions before rendering his to Dr. Bazzocchi and that indeed he did not even know that they existed.[4] The jury

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3 In a letter dated July 27, 1983 from Mario Beretta to Peter Langley, Mr. Beretta wrote as follows:

> We are very impressed by the vast amount of research work and promotion you have developed in the field of Geogrids. We have known of your specific products for this application for some time but were not aware you had achieved such an advanced stage.

4. The testimony of Mr. Rosenberg rendered in open court on October 22, 1990 has been transcribed and reviewed by the Court.

was entitled to infer that these earlier written opinions were not favorable to plaintiffs' position. *Kloster Speedsteel AB. v. Crucible Inc.*, 793 F.2d 1565, 1580 (Fed. Cir. 1986), *cert. denied* 479 U.S. 1034 (1987).

On the record here, this Court concludes that the jury's determination on the issue of willfulness was fully supported by the evidence. Plaintiffs contend, however, that the record was incomplete because the jury was not permitted to consider the Initial Determination of ALJ Saxon, the brief of the Staff Attorney at the ITC proceedings or the dedication and disclaimer of the Product Patent. Plaintiffs have moved for a new trial at which they would be permitted to introduce this additional evidence.

This argument is without merit. The Staff Attorney's brief was filed on May 9, 1990, and the Initial Determination of ALJ Saxon was filed on September 21, 1990, more than 15 and 18 months after this litigation was commenced. As defendant points out, plaintiffs could not have reasonably relied on these events as evidence of their state of mind at the time when their infringement of the Process Patent commenced. Nor is it relevant to the issue of willfulness that during proceedings in this Court and before the ITC questions of inequitable conduct were raised relating only to the Product Patent. *See Dickey-John*, 710 F.2d at 348. Pursuant to Rule 403, F.R.E., this Court excluded evidence at the trial relating to the Product Patent and even bifurcated for later trial plaintiffs' claim of tortious interference with reference to the Product Patent. Had evidence pertaining to the Product Patent been introduced at the trial, its probative value would have been substantially outweighed by the danger that the jury would have been misled and confused as to the issues before it relating to the Process Patent. *See* Rule 403. The proper focus for an issue of willfulness is on the state of mind of the infringers when they began their infringing activities, and not on their state of mind after legal proceedings had been commenced.

For all these reasons, plaintiffs' motion for a new trial on the issue of willful infringement will also be denied.

V

Motion for Remittitur

Plaintiffs have also filed a motion for remittitur, seeking an order which would reduce the amount of damages awarded by the jury. It is apparent from the jury's verdict that its calculation of damages included three different categories of lost profits. First, the jury awarded $1,356,496 for profits lost by Tensar because of the cancellation of a 5% price increase, which was foregone as a result of plaintiffs' competition. Second, the jury awarded $190,668 for profits lost because of price reductions on specific jobs actually serviced by defendant. Third, the jury awarded defendants $233,835 for profits lost on jobs which defendant lost to plaintiffs. The total award was $1,781,000. Plaintiffs now seek a remittitur of the entire amount of the award with the exception of some $70,000 awarded as a part of the second category of lost profits.

Under principles of remittitur, a trial judge may reduce the amount of damages awarded by a jury where the damages are grossly excessive and cannot be justified by the record. *Holman v. Mark Industries, Inc.*, 610 F. Supp. 1195, 1204-05 (D. Md. 1985), *aff'd*, 796 F.2d 473 (4th Cir. 1986). In a patent case, damages for lost profits may be awarded in the form of diverted sales, eroded prices, or increased expenses. *Lam, Inc. v. Johns-Manville Corp.*, 718 F.2d 1056, 1065 (Fed. Cir. 1983). In order to recover such profits, it must be established "that 'but-for' the infringement, the patent owner would have made the sales that the infringer made, charged higher prices, or incurred lower expenses." *Lam*, 718 F.2d at 1065. The burden of proving damages is not an absolute one, rather it is one of

reasonable probability, and, when the amount of damages cannot be ascertained with precision, any doubts regarding the amount must be resolved against the infringer. *Id.*

Defendant contends that causation may be inferred because there was evidence at trial that the relevant market was a "two-supplier market" consisting only of plaintiffs and defendant. In a "two-supplier market," it may be inferred that the patent holder would have made the infringer's sales or charged higher prices but for the competition. *Amstar Corp v. Envirotech Corp.*, 823 F.2d 1538 (Fed. Cir. 1987). Defendant's contentions have merit. There was testimony by witnesses for both sides at the trial that plaintiffs and defendant were the only suppliers of integral geogrids. Accordingly, for the purposes of determining damages, causation may be inferred.

(a)

The Foregone Price Increase

Damages awarded under the first category were based on a proposed 5% price increase which defendant did not institute because of plaintiffs' competition. Plaintiffs contend that this award of damages is speculative because defendant did not actually attempt a price increase. Plaintiffs also argue that a remittitur must be granted because defendant has not demonstrated that plaintiffs' activities caused defendant to forego any price increase.

In support of these contentions, plaintiffs assert that lost profits are generally awarded only in cases in which the patent holder in a two-supplier market experienced reduced sales growth, *Lam, supra*; in which the patent holder was forced to reduce its prices in order to meet the infringer's competition, *TWM Manufacturing Co. v. Dura Corp.*, 789 F.2d 895 (Fed. Cir. 1986), *cert. denied* 479 U.S.

852 (1986); or in which the patent holder did not change its prices although the infringer charged a higher price. *Kalman v. Berlyn Corp.*, 914 F.2d 1473 (Fed. Cir. 1990). Because defendant maintained the status quo rather than testing the potential success of any price increase, plaintiffs argue that damages may not be awarded for this item.

Following its review of the applicable authorities, this Court has concluded that defendant may recover lost profits in this case even though a price increase was not instituted. Courts have held that lost profits may be recovered in instances in which a patentee could have charged higher prices but for the wrongful infringement. *Lam*, 718 F.2d at 1064; *Kalman*, 914 F.2d at 1485. It is not required that the patent holder actually have instituted a price increase; rather, calculations of lost profits may be approximate, so long as they are not determined by mere speculation or guess. *Lam*, 718 F.2d at 1065, citing *Story Parchment Co. v. Paterson Parchment Paper Co.*, 282 U.S. 555, 563 (1931). Accordingly, defendant's right to recover damages in this case is not dependent on the existence of an actual price increase.

From its consideration of the record, the Court does not find that the jury's award of damages was based on mere speculation or guessing. Defendant successfully initiated a price increase for its other products, yet did not increase the price of its integral geogrids. As to the latter products, there was only one direct competitor. There was evidence presented at the trial that defendant lost specific jobs to plaintiffs, that defendant lowered its price in order to compete with plaintiffs, and that defendant's customers were aware of plaintiffs' presence in the market. This evidence goes beyond mere speculation and establishes both defendant's inability to raise its prices and the reason therefor.

As noted, infsofar as the issue of causation is concerned, an

inference may arise from the existence of a two-supplier market. Moreover, direct evidence of causation exists in this case because Mr. Harrington and Mr. Schied both testified that the price increase was not instituted because of the infringing competition of plaintiffs. Testimony of witnesses that a patent holder forewent a possible price increase because of infringing competition may be accepted by a jury, and damages may be awarded for the amount of such price increase. *TWM*, 789 F.2d at 902. In this case, the jury accepted the testimony of defendant's witnesses and awarded damages to defendant for this item. For these reasons, remittitur is not warranted as to the first category of damages awarded by the jury in this case.[5]

(b)

Actual Price Reductions

Plaintiffs have also challenged the jury award for one project, the Smithtown Landfill job, for which defendant was forced to reduce its price in order to meet plaintiffs' competition. Plaintiffs argue that some $120,000 should be remitted because no representative of defendant's distributor testified about the price negotiations for that job.

At the trial, Mr. Harrington testified that, as a result of negotiations for the job, defendant reduced its price in order to meet plaintiffs' competition. Plaintiffs contend that defendant's

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5 Plaintiffs have also moved for judgment n.o.v. on the issue of the foregone price increase. This motion will also be denied. Plaintiffs have failed to meet the less stringent standard for remittitur and certainly cannot meet the standard for judgment n.o.v. In addition, plaintiffs would be precluded from moving for judgment n.o.v. as to this damages issue since they did not raise the issue in their motion for a directed verdict. *See Federal Savings and Loan Insurance Corp. v. Reeves*, 816 F.2d 130 (4th Cir. 1987).

distributor negotiated for the job and that Mr. Harrington had no knowledge as to the reasons for the price reduction.

During the trial, plaintiffs objected to Mr. Harrington's testimony on the ground that he did not have the requisite knowledge to testify concerning the Smithtown Landfill job. That objection was overruled by the Court. That ruling will now be re-affirmed. Mr. Harrington testified that, upon his personal knowledge, the defendant's price was reduced because of plaintiffs' competition. The jury accepted that testimony and awarded damages for this item. Accordingly, this Court will not disturb that award.

(c)

Lost Sales

Lastly, plaintiffs argue that they are entitled to a remittitur of the entire amount of sales made by plaintiffs for which defendant had placed bids. Damages for this item should not be awarded, plaintiffs assert, because defendant presented no specifications for a number of jobs and because, for those jobs as to which evidence was presented, defendant neglected to include relevant per-job costs. Plaintiffs also contend that an acceptable substitute for geogrid products was available for the jobs in question.

There is no merit to these arguments, and a remittitur will accordingly not be granted on the grounds asserted. As defendant points out, the Court carefully limited defendant's evidence of lost sales during the trial and permitted only the presentation of evidence pertaining to those jobs as to which defendant could prove that it had placed a bid. Mr. Harrington and Mr. Schied testified that defendant had unsuccessfully bid on some eleven jobs. The evidence presented was sufficient to support the award. It is

apparent that the jury rejected plaintiffs' contentions that acceptable substitutes existed for the jobs in question. Evidence was presented that defendant had negotiated for the jobs but had lost out to plaintiffs, the only other producer of integral geogrids. Accordingly, the jury was entitled to award damages for those lost sales.

Plaintiffs also attack defendant's method of calculating its lost profits. There was testimony at the trial by Mr. Fehrman, President of Tensar, that defendant spent up to $50,000 in attempting to complete certain sales. According to the testimony, costs of this sort were considered to be "prospecting" expenses designed to encourage customers to use defendant's products. Plaintiffs seek a remittitur of $50,000 representing such "prospecting" expenses which, according to plaintiffs, were incurred in connection with the eleven lost jobs as to which an award of damages was made.

However, as defendant notes, testimony concerning "prospecting" expenses was not presented with reference to the particular jobs for which defendant was awarded damages. Indeed, there is no evidence in the record to indicate that expenses of this sort were involved in those jobs. Mr. Harrington testified concerning the method used to calculate defendant's lost profits for these lost sales, and in each case he calculated the gross sales price for each job and deducted the variable costs to arrive at the prescribed lost profit. This method has been approved by the Federal Circuit. *See King Instrument Corp. v. Otari Corp.*, 767 F.2d 853, 863 (Fed. Cir. 1985). Prospecting expenses were not included in these calculations. For these reasons, plaintiffs are likewise not entitled to a remittitur of prospecting expenses in the amount of $50,000.

Appendix C

VI

Trade Dress Infringement

Plaintiffs have also filed a motion for judgment n.o.v. or for a new trial on the issue of trade dress infringement. Plaintiffs first contend that defendant is not entitled to trade dress protection because the design of defendant's product is wholly functional. Next, plaintiffs argue that defendant failed to establish either a secondary meaning for the trade dress or the likelihood of confusion of the two products. Lastly, plaintiffs contend that a new trial is warranted because the Product Patent is admissible as evidence of the functional aspects of the product's design.

It is important to note at the outset that the law pertaining to trade dress infringement differs from that pertaining to patent infringement. Patent, trademark, and copyright rights all exist independently of one another, and the presence or absence of one does not automatically compel or preclude protection under another. *Nabisco Brands Inc. v. Conusa Corp.*, 722 F. Supp. 1287, 1292 (M.D.N.C. 1989), *aff'd*, 892 F.2d 74 (4th Cir. 1989). Patent rights are separate and distinct from trade dress rights, and no right accruing from the one is dependent upon or conditioned by any right given by the other. *In re Mogen David Wine Corp.*, 328 F.2d 925, 929 (C.C.P.A. 1964).

Trade dress is defined as the appearance of a product including "features such as size, shape, color, color combinations, texture, or graphics." *Rachel v. Banana Republic, Inc.*, 831 F.2d 1503 (9th Cir. 1987). The adoption of a confusingly similar trade dress constitutes unfair competition actionable under Section 43(a) of the Lanham Act. *Vision Sports. Inc. v. Melville Corp.*, 888 F.2d 609 (9th Cir. 1989). The protection from trademark or trade dress infringement is

limited to those designs or features which are "nonfunctional." *In re Morton-Norwich Products. Inc.*, 671 F.2d 1332, 1336 (C.C.P.A. 1982).

The requirement of nonfunctionality has its origin in the judicially recognized concepts that there exists a fundamental right to compete through imitation of a competitor's product, which right can be only *temporarily* denied by the patent or copyright laws, and that this right may be set aside only when a design is nonfunctional and cannot therefore contribute to the infringer's ability to compete. *Morton-Norwich*, 671 F.2d At 1336-37 (emphasis in original). The Court in *Morton-Norwich* stated this principle as follows:

> Thus, it clear that courts in the past have considered the public policy involved in this area of the law as, not the *right* to slavishly copy articles which are not protected by patent or copyright, but the *need* to copy those articles, which is more properly termed the right to compete *effectively*.

Id. at 1339 (emphasis in original). Thus, absent a prohibition of imitation imposed by patent or copyright laws, a competitor may adopt those characteristics of a product which contribute to the function and efficiency of the product.

There is a split of authority as to whether the party seeking trade dress protection bears the burden of demonstrating nonfunctionality, or whether functionality serves as a defense to a claim of trade dress infringement. *See LeSportsac, Inc. v. K Mart Corp.*, 754 F.2d 71, 76 (2nd Cir. 1985); *Litton Systems, Inc. v. Whirlpool Corp.*, 728 F.2d 1423, 1444-45 (Fed. Cir. 1984). The issue is irrelevant since the Court's jury instructions placed the

burden on defendant to demonstrate nonfunctionality and, for the purposes of a motion for judgment n.o.v., the question is whether there is substantial evidence in the record to support the jury's findings made pursuant to the Court's instructions. Neither side has challenged the Court's instructions in this case.

In determining functionality, courts have distinguished between *de facto* functionality and *de jure* functionality. *De facto* functionality means simply that the design of the product has a function, while *de jure* functionality means that the product is in its particular shape because it works better in that shape. *Textron, Inc. v. International Trade Commission*, 753 F.2d 1019, 1025 (Fed. Cir. 1985). A *de jure* functional design is not entitled to trade dress protection. *Textron*, 753 F.2d at 1024.

It has further been held that, before the overall configuration of a product can be recognized as a trademark, the entire design must be arbitrary or non *de jure* functional. *Id.* at 1025; *see also New England Butt Co. v. International Trade Commission*, 756 F.2d 874 (Fed. Cir. 1985); *Petersen Manufacturing Co. v. Central Purchasing, Inc.*, 740 F.2d 1541, 1550 (Fed. Cir. 1984). If this were not true, overall functional designs would be accorded trademark protection if they merely included a few arbitrary and nonfunctional features. *Id.* Insofar as trade dress protection is concerned, the party seeking protection must demonstrate that, although some composite parts may be functional, the overall arrangement of the features is nonfunctional. *Dentsply International, Inc. v. Kerr Manufacturing Co.*, 732 F. Supp. 482, 485 (D. Del. 1990).

Functionality is determined in the light of utility, which in turn is dependent upon superiority of design and rests upon the foundation that imitation is essential to effective competition. *New England Butt*, 756 F.2d at 877-78. Four factors are to be considered

by a court in determining functionality: (1) whether there exists an expired utility patent which disclosed the utilitarian advantage of the design sought to be registered; (2) whether the designer touts the utilitarian advantages of the product through advertising; (3) whether there are other alternatives available; and (4) whether a particular design results from a comparatively simple or cheap method of manufacturing. *Id.*, citing *Morton-Norwich*, 671 F.2d at 1340-41.

In opposing plaintiffs' motion for judgment n.o.v. or for a new trial on the issue of trade dress infringement, defendant relies heavily on the "total appearance" or the "overall appearance" of the geogrid products which plaintiffs were found to have copied. Plaintiffs in turn contend that the evidence presented establishes as a matter of law that the design of the geogrids is *de jure* functional, because the product functions as it does because of its shape. Accordingly, plaintiffs assert that the product is not entitled to trade dress protection. On the record here, this Court would agree.

The first factor set forth in *New England Butt* is the existence of an expired utility patent which touts the utilitarian advantages of the product. No evidence was presented at the trial concerning this factor, which on this record is a neutral one.

The second *New England Butt* factor concerns evidence of advertising which touts the utility of the product. In this connection, plaintiffs point to advertising literature and other materials which were distributed by defendant and which touted the utilitarian advantages of defendant's product. In one publication, defendant stated as follows:

> Geogrids are unique from any other geosynthetic because they are designed with

> relatively large and uniformly distributed apertures which allow particles of the surrounding material to "strike through" and interlock with the grid structure. It's this ability to interlock and strengthen without depending on friction that sets grids apart from all other synthetic material used in soil reinforcement. In earth slope and wall reinforcement, that means firm anchorage of the grid in the soil. And in base reinforcement, that means confinement of the granular particles above the grid.
>
> * * *
>
> A true grid is dimensionally stable with rigid members and strong junctions. It has to be to ensure integrity of the grid structure and geometry during placement and compaction of soil or granular fill over the grid.

Tensar: Technical Note, "Specifying Geogrids" 1 (Nov. 1987) (emphasis in original). Plaintiffs construe this literature as strong and essentially unrebutted evidence that the function of the product lies in its geometry, shape and appearance, to which no protection for trade dress infringement may attach. Plaintiffs also point to testimony presented at the trial by witnesses for the defendant to the effect that the unique differential orientation of defendant's product provides strength for use in construction and other civil engineering applications.

Defendant contends that neither the testimony of witnesses nor defendant's literature makes any reference to the overall appearance of the product, or to any specific color, hole size, or

strand length and that this evidence is therefore not indicative of functionality. This Court cannot agree. Defendant's literature touts the utilitarian advantages of the product even though it does not describe the precise dimensions of the particular geogrids. Since the literature states that the product is unique because of its design, it clearly touts the utilitarian advantages of the design of the product.

Moreover, plaintiffs introduced in evidence at the trial specification sheets of defendant which set forth the precise dimensions of the various products manufactured by defendant. These specification sheets provided customers with information concerning the thickness of the ribs and the junctions, the amount of "open area" and the junction strength and efficiency of the products. These specification sheets reveal that hole sizes may vary among defendant's products, in order to satisfy the particular civil engineering need and conform to the type of aggregate or soil present in a particular project. From this evidence, it is apparent that the varying hole sizes of both plaintiffs' and defendant's products are necessary for the particular function of that product. The specification sheets provide compelling evidence that the functionality of the design is determined by its configuration and appearance.

A third factor to be considered in determining functionality is the availability of alternative products in the market. In opposing plaintiffs' motion for judgment n.o.v., defendant contends that there is evidence in the record of a number of products with a variety of shapes, sizes, colors and strand lengths which achieve the same result as its products. Defendant argues that there is evidence in the record to demonstrate the availability of other products in the market. On the record here, this Court cannot agree.

Throughout this litigation, defendant has repeatedly

emphasized that, prior to the introduction of plaintiffs' products, defendant was the only company selling geogrid products in the United States.[6] During pretrial proceedings, defendant asserted that, in the early 1980's, the use of polymeric geogrids in civil engineering applications was totally new and that defendant had to overcome skepticism in the construction industry in order to develop a successful market for its products.[7]

More recently, in its Memorandum in Opposition to Plaintiffs' Motion for Remittitur, defendant has argued that there was strong evidence to support a finding by the jury that a two-supplier market existed. Testimony of Mr. Fehrman, Tensar's President, indicates that the so-called pseudogrids were not competitive. Mr. Schied, an officer of defendant's distributor Contech, identified a series of job specifications for which only plaintiffs' and defendant's geogrids would qualify. It is thus apparent from defendant's own evidence that suitable alternative geogrid products do not exist.

The fourth *New England Butt* factor is whether the design in question results from a cheap method of manufacturing. This is also a neutral factor which was not addressed by the evidence presented at the trial.

What the record here does establish as a matter of law is that the dimensions of the geogrid products are dependent upon the size of the openings and the length of the strands, and that the material may be stretched in such a way to achieve the level of strength necessary for the intended use. Even the color black is necessitated by industry

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6 See Defendant's Memorandum in Opposition to Plaintiffs' Motion for Partial Summary Judgment, p. 13.

7 *Id.*

requirements, as Mr. Shelton, one of defendant's witnesses, testified. Both manufacturers add carbon black to their products because carbon black prevents degradation of the product when exposed to sunlight.

On the record here, this Court concludes as a matter of law that defendants have not demonstrated that the entire design is non *de jure* functional. Defendants may not therefore assert the overall appearance of the product as protected trade dress. Most if not all of the design is necessary to the product's function. The strength of the product and its ability to perform depend solely upon its geometry, degree of stretch, and molecular orientation. Although defendant's process is entitled to the temporary protection provided by patent law, defendant is not entitled to an eternal monopoly under trade dress principles. *Morton-Norwich*, 671 F.2d at 1336-37, citing *Pope Automatic Merchandising Co. v. McCrum-Howell Co.*, 191 F. 979, 981-82 (7th Cir. 1911). When the evidence in this case is considered in its entirety, this Court has concluded that reasonable persons could not have reached a verdict in favor of defendant on its claim of trade dress infringement.

For these reasons, plaintiffs' motion for judgment n.o.v. on the issue of trade dress infringement will be granted, and judgment will be entered in favor of plaintiffs on Count II of defendant's counterclaim.[8]

VII

Increased Damages and Attorneys' Fees

Defendant has filed a motion for increased damages and

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8 In view of the conclusion reached by the Court on the question of functionality, it is not necessary to address the other trade dress issues raised by plaintiffs' motion.

attorneys' fees. As noted hereinabove, questions pertaining to the amount of attorneys' fees to be awarded will be addressed at a later date.

(a)

Increased Damages

In a patent case, the court is permitted to award damages up to three times the amount found or assessed. 35 U.S.C. § 284 (1952). Courts have limited the award of increased damages to cases in which it is determined that the infringement was willful, and even then the decision to award increased damages rests within the sound discretion of the trial court. *Lam*, 668 F.2d at 475.

Increased damages are warranted if the circumstances indicate that the infringer acted in bad faith. Three factors must be examined to determine whether damages should be trebled: (1) whether the infringer deliberately copied the patent holder's ideas; (2) whether the infringer reasonably investigated the scope of the patent and formed a good faith belief that it was not infringed when he knew or should have known of the patent; and (3) the nature of the infringer's behavior as a party to the litigation. *Unidisco. Inc. v. Schattner*, 231 U.S.P.Q. 593 (D. Md. 1986) (Black, J.), *modified on other grounds*, 824 F.2d 965 (Fed. Cir. 1987), *cert. denied* 484 U.S. 1042 (1988), citing *Lam*, 668 F.2d at 475. Courts have awarded treble damages even in the absence of a finding of improper behavior during the litigation. *TWM*, 789 F.2d at 902: *Unidisco*, 231 U.S.P.Q. at 599.

Defendant asserts that there is ample evidence in the record to warrant increased damages in this case. With respect to the first *Unidisco* factor, defendant contends that plaintiffs deliberately

copied defendant's process in order to produce a confusingly similar product. Evidence presented at the trial indicates that during the period of the development of the geogrid technology, plaintiffs monitored defendant's progress and periodically sought information pertaining to this new process. For example, in 1980, plaintiffs' British distributor wrote Mr. Beretta in Italy informing him of the new geogrid technology. In 1983, Mr. Beretta addressed a letter to Netlon praising the achievements of the geogrid technology, and in 1985, plaintiffs contacted a tool and die maker seeking machinery suitable for making geogrids. In addition, Mr. Beretta admitted in his deposition testimony that he first produced a geogrid product when asked by a customer to provide something like defendant's product.

Plaintiffs argue that a few separate occurrences over a period of years is not evidence of copying. However, substantial other evidence was presented at the trial indicating that plaintiffs copied the patented process. Plaintiffs used a substantially uniplanar starting material, plaintiffs imitated defendant's stretching process, and plaintiffs produced and sold a product with identical dimensions and color. Although fully aware of defendant's product, plaintiffs made no attempt to distinguish the appearance of its product from that of defendant, other than labels which appeared on the product when delivered. When the evidence is considered in its entirety, including appropriate inferences to be drawn from facts of record, this Court finds and concludes that plaintiffs copied defendant's process to produce an identical product.

The second factor to be considered is whether plaintiffs conducted a reasonable investigation and whether they had a good faith belief that their product did not infringe the patent in suit. When a potential infringer has actual notice of another's patent rights, he has a duty to exercise due care to determine whether or not he is infringing. *Bott v. Four Star Corp.*, 807 F.2d at 1572. A

potential infringer exercises due care by obtaining, before engaging in infringing activities, an authoritative legal opinion upon which a good faith reliance on invalidity may be founded. *Bott*, 807 F.2d at 1572. Only preinfringement opinions are relevant for the purposes of determining willfulness. *Studiengesellschaft Kohle mbH. v. Dart Industries, Inc.*, 666 F. Supp. 674, 694 (D. Del. 1987), *aff'd* 862 F.2d 1564 (1988).

In this regard, the jury's finding of willfulness carries great weight. At trial, plaintiffs' only evidence relating to their receipt of a legal opinion was the testimony of Mr. Rosenberg, who stated that in May or June of 1989, after suit was filed, he rendered an oral opinion to the effect that excellent defenses to a charge of infringement existed. Defendant contends that the jury, in failing to credit Mr. Rosenberg's testimony, determined that his opinion was merely conclusory and entitled to little weight. Defendant also notes that plaintiffs obtained two written opinions from Italian counsel before seeking Mr. Rosenberg's advice, yet refused to produce these opinions during the course of the litigation or introduce them in evidence at the trial.

Plaintiffs argue that the Court should find Mr. Rosenberg's opinion to have been competent and should recognize that his testimony was unduly circumscribed by his inability to testify concerning the Product Patent. Plaintiffs also rely on the Initial Determination of ALJ Saxon in the ITC proceeding which they urge confirms Mr. Rosenberg's opinion and plaintiffs' good faith in challenging defendant's rights under the Process Patent.

On the record here, this Court would agree with the jury's finding that plaintiffs willfully infringed the Process Patent and concludes that Mr. Rosenberg's testimony is entitled to little weight. Mr. Rosenberg was one of Tenax's attorneys at the outset of this litigation and signed the original complaint. It was only after

defendant had filed its counterclaim alleging willful infringement that Mr. Rosenberg rendered his oral opinion to Dr. Bazzocchi. Moreover, Mr. Rosenberg never reviewed the written opinions of Italian counsel and indeed was never even advised that such opinions existed. It is apparent from the record here that plaintiffs were aware of the Process Patent before they began to manufacture and sell their product.

Other evidence at the trial indicates that the opinion of Mr. Rosenberg was sought only after defendant had sent letters to plaintiffs' customers informing those customers that plaintiffs were infringing defendant's patent rights. This Court concludes that plaintiffs, although aware of defendant's patent rights, did not undertake a reasonable investigation of either the scope or validity of the patent before commencing their infringing activities. Rather, plaintiffs' conduct indicates a lack of good faith warranting an award of increased damages in this case.

Lastly, defendant contends that increased damages are proper because plaintiffs behaved improperly during the course of the litigation. In this particular case, the question of improper trial tactics is a neutral factor. Counsel on both sides aggressively represented their clients throughout this litigation and vigorously attacked the contentions of the opposing side. During the pretrial stages, the parties pressed and then later abandoned various positions. For example, defendant initially contended that plaintiffs had infringed three patents, yet at the time of trial only issues pertaining to the Process Patent were submitted to the jury. At various times during the litigation, both sides engaged in petty disputes. On the record here, the Court cannot say that the conduct of plaintiffs' counsel was so egregious or amounted to such a lack of good faith as to be a significant factor in determining whether damages should be increased.

Appendix C

A Court may increase damages even though it does not find that plaintiffs behaved improperly during the litigation. *See TWM, supra; Unidisco, supra.* As Judge Black noted in *Unidisco*, the decision to increase damages must vary on a case-by-case basis, and must be based on the particular facts presented. 231 U.S.P.Q. at 599. In this particular case, defendant's motion for increased damages will be granted because of the strong evidence of copying and willfulness. Plaintiffs were well aware of defendant's product before beginning their infringing activities, yet never requested nor received a favorable opinion from counsel until after their customers had received letters from defendant informing them of defendant's patent rights and until after this litigation was well under way.

Plaintiffs also urge that any award should not be trebled. Plaintiffs contend that § 284 merely permits an increase "up to" three times the size of the award, and that courts have in some cases declined to treble damages. *See Del Mar Avionics, Inc. v. Quinton Instrument Co.*, 836 F.2d 1320, 1328 (Fed. Cir. 1987). Plaintiffs request that the Court, in view of its familiarity with the litigation and in the interests of justice, should increase damages in an amount less than three times the jury award. *Del Mar Avionics*, 836 F.2d at 1329.

This Court cannot agree. A finding of willfulness alone has been held sufficient to permit an award of treble damages under § 284. *See TWM, supra.* In this particular case, the jury has determined that plaintiffs willfully infringed the Process Patent, and this Court has agreed completely with that determination. Factors of significance in this case are the remarkable similarity of the products, the clear evidence of copying, and the failure of plaintiffs to reveal the opinions received from Italian counsel. After consideration of all of these factors, this Court has determined that treble damages are indeed warranted in this case.

Appendix C

(b)

Attorneys' Fees

Congress has provided that in a patent "the court in exceptional cases may award reasonable attorneys' fees to the prevailing party." 35 U.S.C. § 285 (1952). An express finding of willful infringement is a sufficient basis for finding a case to be "exceptional," and, indeed, when a trial court denies attorney fees in spite of a finding of willful infringement, the court must explain why the case is not "exceptional" within the meaning of the statute. *Modine Manufacturing Co. v. Allen Group, Inc.*, 917 F.2d 538, 543 (Fed. Cir. 1990), citing *S.C. Johnson & Son, Inc. v. Carter-Wallace, Inc.*, 781 F.2d 198, 200 (Fed. Cir. 1986).

The decision whether or not to award attorneys' fees is committed to the sound discretion of the trial judge. *Modine*, 917 F.2d at 543. The "trial judge is in the best position to weigh considerations such as the closeness of the case, the tactics of counsel, the conduct of the parties, and any other factors that may contribute to a fair allocation of the burdens of litigation as between winner and loser." *Id.*, citing *S.C. Johnson*, 781 F.2d at 201.

Defendant seeks attorneys' fees in the amount of $601,264.33, representing the amount of such fees incurred after October 2, 1990, which was the date on which the Product Patent was disclaimed and dedicated to the public.[9] Harvey B. Jacobson, Jr., Esq., defendant's principal counsel, has submitted an affidavit and billing invoices for the months of October and November, 1990. These materials specify the total hours for each attorney and the relevant billing

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9 Defendant states that the total amount of attorneys' fees incurred by it in this litigation and the ITC proceeding exceeds $2.3 million.

rates, and list additional expenditures such as witness billings, paralegal and law clerk billings, and overtime pay.

Plaintiffs oppose any award of attorneys' fees on the ground that this case is not an "exceptional" one under 35 U.S.C. § 285. Plaintiffs argue that the outcome of the ITC proceedings indicate that the question of infringement was a close one, and they point out that they prevailed initially before the ITC with respect to the Product Patent. Contending that evidence of willfulness was weak, they assert that in view of the rulings of ALJ Saxon, plaintiffs had every reason to believe that they would prevail on all claims at trial. According to plaintiffs, attorneys' fees should not be awarded in a case such as this one because such an award would discourage attempts to fairly and honestly challenge the validity of patents held under federal law. *See Kloster Speedsteel*, 793 F.2d at 1581.

For the reasons more fully discussed hereinabove, the Court finds plaintiffs' contention to be without merit. The jury determined that plaintiffs had acted willfully in infringing the patent, and this Court, after a careful review of the record here, has agreed completely with the jury's finding on the issue of willfulness.[10] There is substantial evidence in the record indicating that plaintiffs deliberately copied defendant's process. Such evidence alone warrants an award of attorneys' fees. *Pacific Furniture Manufacturing Co. v. Preview Furniture Corp.*, 626 F. Supp. 667, 679 (M.D.N.C. 1985), *aff'd* 800 F.2d 1111 (Fed. Cir. 1986).

On the record here, this Court finds this case to be an "exceptional" one in which attorneys' fees should be awarded. Defendant's motion for attorneys' fees will therefore be granted.

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10 This Court does not agree with several of the conclusions reached by ALJ Saxon in her Initial Determination rendered in the ITC case.

However, the amount of the award will be determined at a later date, after appellate proceedings have been concluded.

VIII

Motion for Prejudgment Interest

Defendant has moved for prejudgment interest in the amount of $110,184 covering the period from February 23, 1989 to November 23, 1990. Plaintiffs do not dispute that in a case such as this one, prejudgment interest may be awarded under 35 U.S.C. § 284. Indeed, the Supreme Court has held that prejudgment interest should be awarded under § 284 absent some justification for withholding such an award. *General Motors Corp. v. Devex Corp.*, 461 U.S. 648, 656 (1983).

Although plaintiffs do not contest defendant's right to recover prejudgment interest, plaintiffs suggest that defendant's award should be limited in some respects. In an appropriate case, an award of prejudgment interest may be limited where the patent owner has been responsible for undue delay in prosecuting the lawsuit. *Devex*, 461 U.S. at 657. Plaintiffs contend that by bringing a parallel action before the ITC, defendant unduly delayed the resolution of this suit and that, for this reason, prejudgment interest should not be awarded for the five month period from February of 1990 through June of 1990. Plaintiffs contend that during this period they were exclusively occupied in preparing for proceedings before the ITC.

There is no merit to plaintiffs' contentions. During the period from February to June of 1990, the parties concluded their briefing on plaintiffs' motion for partial summary judgment, a hearing was held and the Court issued its Memorandum and Order denying that motion. During that same period of time, defendant's motion for

partial summary judgment was filed, was briefed, and was granted by the Court. Moreover, the depositions of key witnesses, including Dr. Mercer, Keith Martin, Robert Gregory and Marvin Stern were undertaken during the period from February to June of 1990. Under the circumstances, it cannot be said that the ITC proceedings unduly delayed prosecution of this case.

Rather than delaying the prosecution of this suit, the ITC proceedings in many ways furthered this Court's scheduling. Discovery was aided somewhat by the more restrictive ITC schedule. Procedures such as the exchange of lists of expert witnesses and exhibits occurred much earlier than might otherwise have been expected because of the ITC proceedings. Since defendant did not delay prosecution of this suit by instituting the ITC case, the time period for calculating prejudgment interest will not be reduced by five months.

Besides seeking to limit the relevant period to which interest would apply, plaintiffs have opposed the interest rate suggested by defendant for calculating prejudgment interest. Defendant has calculated prejudgment interest on the basis of the average prime rate, while plaintiffs have requested that the court exercise its discretion and apply the 52-week U.S. Treasury bill rate. Plaintiffs contend that defendant, by capturing the vast majority of sales in the relevant market, was largely unaffected by plaintiffs' activities and that the lesser rate of interest should be applied.

The rate of prejudgment interest and whether it should be compounded or not are matters left largely to the discretion of the trial court. *Bio-Rad Laboratories, Inc. v. Nicolet Instrument Corp.*, 807 F.2d 964, 969 (Fed. Cir. 1986), *cert. denied* 482 U.S. 915 (1987). Prejudgment interest is awarded to compensate the patentee for its foregone use of the money between the time of the infringement and the date of the judgment. *Bio-Rad*, 807 F.2d at

969. In order that the patentee may be compensated adequately, the Federal Circuit has approved of the use of "either the prime rate or the rate that [the patentee] paid on its corporate borrowings during the period of its infringement." *Id.*

In August, 1988, defendant Tensar established a revolving line of credit with Westinghouse Credit Corporation, the average outstanding balance of which exceeded the amount of the jury award for the period from February of 1989 to November of 1990. The interest rate charged by Westinghouse Credit Corporation was the prime rate plus 2-1/2 percent. In view of these credit arrangements, it is entirely appropriate in this case for defendant to be awarded prejudgment interest based on the average prime rate for the relevant period. Use of the average prime interest rate has been approved by decisions of the Federal Circuit and is reasonable under the circumstances of this case.

Accordingly, defendant's motion for prejudgment interest will be granted. Defendant Tensar is entitled to interest for the period from February 23, 1989 to November 23, 1990 calculated at the average prime rate.

IX

Defendant's Motion for Permanent Injunction Against Trade Dress Infringement

For the reasons discussed in Part VI of this Memorandum and Order, the Court has granted plaintiffs' motion for judgment n.o.v. as to defendant's claim of trade dress infringement. Since judgment has been entered in favor of plaintiffs on Count II of defendant's counterclaim, defendant is not entitled to a permanent injunction against trade dress infringement. Defendant's motion seeking that relief will accordingly be denied.

Appendix C

X

Conclusion

For the reasons stated, it is this 3rd day of April, 1991, by the United States District Court for the District of Maryland,

ORDERED:

1. That plaintiffs' motion for judgment notwithstanding the verdict or in the alternative for a new trial on patent infringement be and the same is hereby denied;

2. That plaintiffs' motion for a new trial on the issue of willful infringement be and the same is hereby denied;

3. That plaintiffs' motion for remittitur be and the same is hereby denied;

4. That plaintiffs' motion for judgment notwithstanding the verdict on Count II of defendant's counterclaim be and the same is hereby granted;

5. That judgment is hereby entered in favor of plaintiff Tenax Corporation and counterclaim defendants Tenax Corporation and RDB/Plastotecnica, S.p.A. on Count II of defendant's counterclaim;

6. That defendant's motion for increased damages and attorneys' fees be and the same is hereby granted, with the amount of the award to be determined at a later date;

7. That defendant's motion for prejudgment interest be and the

same is hereby granted; and

8. That defendant's motion for permanent injunction against trade dress infringement be and the same is hereby denied.

s/ Alexander Harvey
Senior United States District Judge

APPENDIX D
EXCERPTS FROM U.S. INTERNATIONAL TRADE COMMISSION INVESTIGATION NO. 337-TA-303 INITIAL DETERMINATION, PUBLIC VERSION

PUBLIC VERSION

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

In the Matter of

CERTAIN POLYMER GEOGRID PRODUCTS

AND PROCESSES THEREFOR

Investigation No. 337-TA-303

INITIAL DETERMINATION

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Washington, D.C. 20436

* * *

[14]

Although the U.S. patent application was filed in 1979, it claims a 1978 priority date based on the British application. The inventor must have been claiming the same invention. The [C] experiments that had formed the basis for the British application also formed the basis for the U.S. patent application from which the two patents in suit were derived.

* * *

ENFORCEABILITY

[121-152]

Respondents have asserted the affirmative defense that both patents in issue are unenforceable due to inequitable conduct or fraud on the Patent Office. They have the burden of proving by clear and convincing evidence that a patent is unenforceable. *Rohm & Haas Co., v. Crystal Chemical Co.*, 722 F.2d 1556, 1572, 220 U.S.P.Q. 289, 302 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). If one claim of a patent is procured by inequitable conduct, then the entire patent is made unenforceable. *Kingsdown Medical Consultants Ltd.*, 863 F.2d 867, at 874, 9 U.S.P.Q.2d 1384, 1392 (Fed. Cir. 1988) (*en banc*), *cert. denied*, 109 S.Ct. 2068 (1989).

Because the prosecution of a patent application is *ex parte*, the

applicant owes a duty of candor to the Patent and Trademark Office. Failure to meet the duty of candor amounts to inequitable onduct. If an applicant makes a misrepresentation to the PTO or fails to disclose information to the PTO, this may be a breach of the duty of candor.

To constitute inequitable conduct, a misrepresentation or a failure to disclose information must be both material and intentional. *Under Sea Industries. Inc. v. Dacor Corporation*, 833 F.2d 1551, 1559, 4 U.S.P.Q.2d 1772, 1777 (Fed. Cir. 1987). Once the threshoids of materiality and intent are established, the factors are balanced to determine as a matter of law whether the balance favors a conclusion that inequitable conduct occurred. *American Hoist & Derrick Co. v. Sowa and Sons. Inc.* 725 F.2d 1350, 1363-64, 220 U.S.P.Q. 763, 773 (Fed. Cir.), *cert. denied*, 469 U.S. 821 (1984).

THE MARTIN DECLARATIONS

Respondents and the staff contend that the declarations submitted by Keith F. Martin to the U.S. Patent and Trademark Office during prosecution of the '946 product patent included intentionally false and misleading statements and intentionally failed to disclose material facts. The '798 process patent is not directly involved in these charges. It was issued more than three years before the first Martin declaration was filed.

Information is material to the prosecution of a patent if there is a substantial likelihood that a reasonable examiner would consider it important in deciding whether to allow the application to issue as a patent. *Merck & Co. v. Danbury Pharmacal, Inc.*, 873 F.2d 1418, 1421 (Fed. Cir. 1989); *see also* PTO Rule 1.56(a), 37 C.F.R. § 1.56(a).

Intent is more difficult to prove than materiality. An intent to

circumstances, but it cannot be inferred from a finding of gross negligence alone. *Kingsdown Medical Consultants Ltd. v. Hollister Inc., supra.* 863 F.2d 867. at 876; *FMC Corp. v. Manitowoc Co.*, 835 F.2d 1411, 1415 n.9 -U.S.Q.P.2d 1112, 1116 n.9 (Fed. Cir. 1987). But conduct evidencing a "studied ignorance" of the facts or a "reckless indifference" to the truth may give rise to an inference of wrongful intent. *Hewlett-Packard Company v. Bausch & Lomb Inc.*, 882 F.2d 1556, 1562-3 (Fed. Cir. 1989). *See Modine Manufacturing Co. v. Allen Group Inc.*, 14 U.S.P.Q.2d 1210 (N.D. Cal. 1989). An intent to mislead may be inferred from circumstantial evidence. "Such an inference depends upon the totality of the circumstances, including the nature and level of culpability of the conduct and the absence or presence of affirmative evidence of good faith." *Hewlett-Packard*, 882 F.2d at 1562. Materiality and intent are interrelated, so that "if one is particularly strong, a lesser degree of the other may suffice to show inequitable conduct. *Under Sea Industries, Inc.*, 4 U.S.P.Q.2d at 1777.

There is strong evidence of material misrepresentations in the Martin declarations and failure to disclose material information in connection with these declarations.

The circumstances surrounding these declarations indicate that at the time the declarations were submitted, the applicant (or his agents) knew (or in some instances had every reason to know) that the declarations included statements that were false and material (in that it would have been important to the examiner to know the true facts in deciding whether to allow the claims).

The applicant also withheld information that was material. The applicant (or his agents) either was aware or had good reason to be aware that the withheld information would have been important to the examiner, and would have been considered by the examiner in deciding whether to allow the claims in the form in which they were allowed.

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Intent is more difficult to prove, but the circumstances surrounding the prosecution of the '946 patent support a finding of intent on the part of at least some of the applicant's agents and through his agents, the applicant himself.

In preparing the three declarations that were filed with the PTO in the prosecution of the '946 product patent, Mr. Martin worked with Mr. Edward Lyndon-Stanford, a British patent agent who represented Netlon in the preparation and prosecution of patent applications around the world. (Martin, Tr. 1274.) The three Martin declarations were dated June 5, 1986, September 23, 1987, and March 10, 1988. (RDB Ex. 31., complainant admits that the [C] declarations contain errors, but denies that the errors were material, and that they were made with an intent to mislead the patent examiner.

The commentaries on the prior art submitted in connection with the prosecution of the patents in suit were the result of joint efforts of Dr. Mercer, Mr. Martin, and Mr. Lyndon-Stanford. (Martin. Tr. 1486-87.) The record does not show who was responsible for specific misrepresentations or the failure to disclose specific information.

The first declaration

Mr. Martin's first declaration was submitted in response to an Official Action in which the patent examiner rejected all of the pending product claims. The claims initially were rejected under 35 USC § 103 as obvious in view of the Patchell U.K. '487 patent (RDB Ex. 13). The uniaxial claims were rejected as obvious in view of the Kalwaites '609 patent (RDB Ex. 19). (Tr. 1488, 1633-34; RDB Ex. 31, Official Action dated January 14, 1986.)

Part of the first Martin declaration was intended to show the

examiner that the applicant's company was the first to stretch thick plastic into nets. The declaration stated that there "was no known equipment available for the orientation of thick sheet until my company carried out their work in the very late 1970s," and that in "1978 or 1979, only very thin materials, i.e. materials called films, had been biaxially oriented in commercial practice."

Both statements were false. In 1973, Mario Beretta had biaxially stretched 5 mm thick uniplanar sheets. (RDB Phys. Ex. T. M. Beretta, Tr. 2782.) Mr. Martin saw this material in 1973. (Martin, Tr. 1239-44.) Before 1978, Mario Beretta also had stretched thick Cintoflex materials with a starting material thickness greater than .75 mm. The Cintoflex material was biaxially oriented and was used commercially. Cintoflex was a square mesh product made by a Netlon process that had been improved by RDB. Mr. [C] had been aware of RDB's Cintoflex products as early as 1977 or 1978. (Staff Exs. 23, 24; Martin, Tr. 1073-77; Tensar Ex. K.). In the mid-1960s, Dr. Mercer showed to Mr. Martin a material that DuPont has stretched biaxially from a sheet thicker than .75 mm. The sheet had depressions formed by a deeply engraved casting roller. (Mercer, Tr. 3421-22.)

Both of the above statements in the first declaration were material because the applicant was arguing that Netlon was the first company to stretch thick sheet materials, and this distinguished his invention from the prior art. The circumstances support a finding that the misrepresentations were intentional because Dr. Mercer and Mr. Martin had personal knowledge that thick nets had been stretched by others before they had been stretched by Dr. Mercer. This was information in which each of them was interested and unlikely to forget.

The first Martin declaration included samples or thin nets

made by the earlier Patchell and Kalwaites '609 patent processes. These samples were not misleading.

In his first declaration, Mr. Martin represented that he stretched materials in Figures 10-12 at a 4 to 1 stretch ratio. (RDB Ex. 31 at Tab P, p. 15.) This representation was false; the materials were stretched at ratios of 3 to 1 or less. (Martin, Tr. 1261-66.) Figures 10-12 in the first declaration were intended to show that Figure 18 of Patchell was inaccurate in showing a substantial contraction of the width of a uniaxially stretched material. (RDB Ex. 31, Tab P, p. 15.) The materials in Figures 10-12 were stretched farther than the Patchell material, but do not show a substantial contraction in width. (Tr. 1934.) The material in Patchell Figure 18 was stretched at a ratio of approximately 2 : 1 or 2 . 5 : 1 (Tr . 3144-45, 3283-84), while the materials in Figures 10-12 were stretched at a ratio of about 3:1 (Martin, Tr. 1263-66, RDB Phys. Ex. AA.) Figures 10-12 still support [C] [C] argument that a material stretched farther than Patchell Figure 18 was stretched would not contract as much as Patchell indicated. The mistake in the stretch ratio of Figures 10-12 was immaterial, and there was no evidence that the mistake was intentional.

The Kalwaites process was not used commercially, and Mr. Martin could not find any products made according to the patent . (Martin. Tr. 1634-35.) He decided to reproduce Kalwaites Example 1 for use in his first declaration, He used the pattern of depressions in the starting material disclosed in Kalwaites Example 1 (the Kalwaites punch pattern). Kalwaites had embossed the starting material, but Mr. Martin drilled his starting material because he did not have embossing equipment. His substitution of drilled holes for embossed material was a reasonable attempt to reproduce the Kalwaites sample. Using a .2 mm thick starting material, comparable to the 8 mil material in Kalwaites Example 1, he stretched the material at a 4:1 stretch ratio. (Martin, Tr. 1489-91,

1634-35.) In his first declaration. Mr. Marrin described the results of this modified reproduction of Kalwaites Example . The junction had thinned out entirely. Mr. Martin disclosed that the Kalwaites material was embossed and that his reproduction of the Kalwaises sample had been drilled. (RDB Ex. 31, Tr. 1489-91, 1635.)

The second declaration

After the first declaration was submitted, the examiner again rejected the claim over Kalwaites, noting that Kalwaites did not suggest a limit on starting material thickness, that the applicant had a burden "to show that such a starting thickness [*i.e.*, .75 mm] results in unexpected results," and that the applicant had failed to meet this burden.

The examiner noted that "[t]here has been no direct comparison between different starting thicknesses with all other variables equal." (Tr. 1491-1492, 1638-1639; RDB Ex. 31, Official Action dated September 18, 1986.)

The examiner indicated that the Kalwaites test on a starting material .2 mm thick was not close enough to .75 mm to prove that there was a difference in behavior of the starting material at or near the .75 mm minimum starting material thickness set forth in the Mercer patent. In other words, the examiner wanted proof that the .75 mm minimum starting material thickness set forth in the Mercer patent was critical to the Mercer invention. The assertion of criticality of a minimum of .75 mm in thickness was material because the applicant was arguing that surprising and unexpected results occurred at or around .75 mm, and above .5 mm.

The Kalwaites test in the first declaration had been made on a very thin starting material. The examiner suggested that to

distinguish his claims over Kalwaites, the applicant would have to show that the use of a .75 mm starting thickness, as required in the Mercer claims, would have unexpected results.

Mr. Martin then made additional Kalwaites tests using starting materials of .13, 1.5 and 2.0 mm thickness. The 1.5 and 2.0 samples were thicker than the .75 mm minimum starting material of the Mercer claims. (Staff Phys. Ex. A; Martin, Tr. 1492; Staff Ex. 34.)

The results of the test on the .13 mm sample when stretched at a 4:1 ratio were like the results of the .2 mm Kalwaites test submitted with the first declaration. When stretched, the junction thinned out entirely, and did not produce a Mercer junction. The starting material was less than .75 mm thick. The results of the test on the .13 mm sample were submitted in the second declaration. (RDB Ex. 31.)

But the thicker 1.5 and 2.0 mm samples stretched irregularly and broke before reaching the intended 4:1 stretch ratio. (Staff Ex. A.) Martin repeated the 1.5 mm and 2.0 mm tests, and they failed again. (Martin, Tr. 1506, 1645.) The stretched 1.5 and 2.0 mm samples showed little or no orientation into the junction. (Larsen, Tr. 2727-28.) The results of these tests were omitted from the second declaration.

At first Mr. Martin concluded that the failed samples had broken because the w:d ratio was too small: the distance between the holes (w) was too small in relation to the thickness of starting material (d) when the Kalwaites pattern of holes was used with a 1.5 mm or thicker starting material. The material was too thick to be stretched into a Mercer junction because of the relatively small distance between the holes. When the stretch ratio had to be increased to stretch a material that thick, there was too much stress

on the small amount of material between the holes that could be stretched, and the material broke. (*See* Martin, Tr. 1479, 1494-96, 1267, 1645-46; RDB Phys. Ex. A; Staff Phys. Ex. A). Mr. Martin explained this to Mr. Lyndon-Stanford (Martin Tr. 1274, 1506, 1645-46, 3494-95).

By March 6, 1987, after considering the 1.5 and 2.0 mm sample failures, Mr. Martin and Mr. Lyndon-Stanford had concluded that a Mercer junction could not be stretched from a starting material that had a Kalwaites punch pattern in it *even if the starting material had the minimum Mercer thickness* (at least .75 mm thick). (Martin, Tr. 1496; Tensar Ex. 131: Staff Ex. 34.)

A draft of the second declaration was prepared indicating that when a starting sheet in the Mercer thickness range was prepared with the Kalwaites punch pattern, it was impossible to stretch the material successfully into a product, because the w:d ratio was too small and the zones between the holes (the strand-forming zones) could not withstand the forces necessary to pull the orientation beyond the holes. Mr. Martin reviewed this draft. (He changed the word "great" to "small".) (RDB Phys. Ex. A at p. 023016, 022998; Martin, Tr. 1273.) At the time that the first draft of the second declaration was prepared, the applicant was ready to disclose to the PTO that Kalwaites samples with a "thickness 0.75 mm and above broke before they could reach the Kalwaites stretch ratio." Mr. Lyndon-Stanford included the two failed samples and Martin's explanation about the w:d ratio being too small in the initial draft of this declaration which he prepared. A w:d ratio that is too large or too small can result in a failure to achieve the Mercer structure. Some of the patent claims include an upper limit on the w:d ratio, but none claims a lower limit. The second draft offered a theory that a Mercer structure could not be made with a Kalwaites pattern of holes or depressions, and that to create a Mercer structure from a

starting material in the Kalwaites punch pattern, the pitch should be increased as the thickness of the starting material is increased.

The second Martin declaration went through at least ten drafts over almost a year before the final version was submited to the PTO on November 16, 1987. (Tr. 1513; RDB Phys. Ex. A.) The reference to the two failed samples and the Martin explanation was included in the first five drafts, but was deleted in the final version. (RDB Phys. Ex. A at p. 023122; LyndonStanford, Tr. 3519-2.) The failed samples and the explanation that the low w:d ratio might have caused the failure were not disclosed to the PT0 in the second declaration as filed. (Martin, Tr. 1270, 1505; RDB Ex. 31.)

Mr. Lyndon-Stanford sent to Marvin Stern, the applicant's U.S. patent counsel, drafts of the second declaration that discussed the broken 1.5 and 2.0 mm samples. (Lyndon-Stanford, Tr. 3515, 3538.) A telex dated January 27, 1987, from Mr. Stern to Mr. Lyndon-Stanford indicates that Mr. Stern had reviewed at least one of these drafts. Mr. Stern advised Mr. Lyndon-Stanford that the declaration "still appears to fail to respond to examiner's suggested tests." (Staff Ex. 35.)

The failed 1.5 and 2.0 mm samples and the explanation that the samples failed because of a low w:d ratio were discussed by Mr. Lyndon-Stanford in a letter to Dr. Mercer dated April 1987. (Tensar Ex. 132; Lyndon-Stanford, Tr. 3471.) Dr. Mercer was kept informed, although there is no evidence that he actively participated in the prosecution of the '798 patent; he was the applicant and the others acted as his agent.

At some later time, [C] changed his mind as to why [C] [C]. [C] testified at the hearing that he had concluded in May or June of 1987 that [confidential] [confidential] [confidential] [confidential]

he testified that in May or June, 1987, he told this to [C]. At that time he did not say clearly that he had had [C]. [C] testified that when he deleted references to the [confidential] from the second declaration in June 1987, he had no knowledge of any [confidential] [C]

At the hearing [C] testified that where he said he could not

[confidential]

[confidential]

[confidential]

[confidential]

[confidential]

[confidential]

[confidential]

[confidential]

[confidential]

[confidential]

[C]

It is not clear when [C] first told [C] that he thought that the samples [C] because the starting materials had been [C] (Tr. 3472, 3501-02.) It may have been later in 1987, or perhaps [C] did not

think about [C] being the cause of the problem until this litigation began. (See Tr. 3009-10, 5322.) [C] testified at his deposition that it was not until his deposition was taken that he concluded that [confidential] in these samples, but it was a long deposition and the witness was exhausted during much of it. Actually, in the second declaration as filed [C] had stated (RDB Ex. 31, Tab K):

> However, drilling itself may have made the stretching less reliable as little scuffs are formed on the sides of the holes and can initiate failure.

On March 8, 1988, just before the submission of the third Martin declaration, Mr. Martin and Mr. Lyndon-Stanford discussed the broken 1.5 mm sample again, but the record does not show whether drilling problems were discussed at that time. (Tensar Ex. 135; Lyndon-Stanford, Tr. 3456.) Although Mr. Lyndon-Stanford testified that he had not been sent any documents referring to drilling problems in connection with the 1.5 and 2.0 mm samples at any time (Lyndon-Stanford, Tr. 3499), he must have seen the statement in the second declaration.

The record does not show whether [confidential] [confidential]. [C] was aware that either could have caused the[C]. At the time that the second declaration was filed, not enough tests had been made to determine the cause of the [C]. At this time, there is no longer enough information about the [C] [C] to make this determination.

Mr. Martin had two drill jigs. (Tr. 1690-695.) He could not remember which jig was used to drill the failed samples. (Tr. 1695.) In the second declaration, Mr. Martin reported the hole diameter in the sample he submitted to be .53 inches. (RDB Ex. 31 at 0530396.)

All parties agree that this was a mistake. If the hole diameter were half an inch, there would be no plastic left because the maximum pitch (distance from center from center of adjacent holes) was only 1/8 inch. (RDB Ex. 96.) Mr. Martin probably meant that the hole was .053" in diameter. The old drill jig that made relatively large holes must have been used for this sample. Another jig made smaller holes between 1.1 and 1.2 mm in diameter (Tr. 3047-48). The size of the holes may have varied from one sample to another, if two jigs were used.

The parties disagree about [confidential]

[confidential]

[confidential]

[confidential]

[confidential]

[confidential]

[confidential]

[confidential]

[confidential]

Mr. Martin was clearly aware of the importance of the w:d ratio. He also was aware that the examiner wanted proof of a change in behavior of the starting material at a minimum thickness of .75 mm. Mr. Martin would not have wanted the samples that had a

thickness over .75 mm to fail. Shortly after the two samples failed, Mr. Martin advised his patent agent that the reason for the failure was the low w:d ratio. Later he thought that poor drilling and scuff marks caused the failure. Neither cause could be ruled out without making further tests, and further tests to determine the cause of failure were not made. Instead, two thinner samples that still had a minimum thickness of .75 mm or more and did not fail were substituted for them. If the applicant had submitted the failed samples, the examiner probably would have raised more questions about the criticality of the .75 mm starting thickness. It might have become clear that the w:d ratio was more important than a single minimum thickness in getting the Mercer junction.

When Mr. Wrigley tried to reproduce the tests, he [C]

[confidential]

[confidential]

[confidential]

[confidential]

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[confidential]

[confidential]

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[confidential]

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[confidential]

[confidential]

[confidential]

[confidential]

[confidential]

[confidential]

Regardless of what Mr. Martin thought caused the samples to fail, the applicant should have submitted these tests to the PTO. On May 29, 1987, Mr. Martin and Mr. Lyndon Stanford discussed the broken 1.5 and 2.0 mm samples and a decision was made to omit them from the second declaration. (Tensar Ex. 133; Lyndon-Stanford, Tr. 3454-55, 3500.) The decision was not based on any test results. (Lyndon-Stanford, Tr. 3501-02.) On June 16, 1987, Mr. Lyndon-Stanford deleted all references to the failed 1.5 and 2.0 mm samples and the conclusions that had been reached regarding them in the draft of the second declaration. (RDB Phys. Ex. A; Martin, Tr. 1500-01.)

Three days later, Mr. Lyndon-Stanford wrote to Mr. Stern:

> We have done a large amount of testing, and I am concerned that the number of factors which can affect the nature of the final product - if they are not in the correct combination, the Mercer product is not produced.
>
> Having considered all this with Keith Martin,

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> we feel that it would be best to put in a fairly simple Declaration, confining ourselves to the points raised by the Examiner.

(Staff Ex. 37.)

The final draft of the second declaration that was filed with the PTO made no reference to any 1.5 or 2.0 mm samples. or to any problems with w:d ratio, or to the need to increase the pitch when increasing thickness to form a Mercer product. (Tr. 1506-07, 1514-15, 1646-48, 3502, 3504-05.) There was no reference to Mr. Lyndon-Standford's concern that if a number of factors were not in the right combination, a Mercer product would not be produced. Instead, the declaration included only supporting data relating to the tests at .13 mm, .2 mm, .75 mm, and 1.1 mm, and omitted all negative or inconsistent test results. The .75 mm and 1.1 mm samples were thinner than the samples that had failed, and the 1.1 mm sample was probably drilled with smaller holes. (Tr. 1690-1695.) Both factors would contribute to a larger w:d ratio in these samples than in the samples that failed. The applicant then argued that at thicknesses of .75 mm and above, there is a fundamental change in behavior, and Mercer-type products are produced. without any mention of the tests that did not bear this out.

The information that was omitted was material. The omitted test results were inconsistent with the conclusion that increasing the thickness to .75 mm and above would produce a Mercer-type junction, and that there was a fundamental change in behavior at .75 mm thickness in the starting material. The failed samples support the theory that thickness was only one of the factors that would determine whether Mercer junctions would be produced.

Complainant argues that [confidential] [C] would not have

been relevant to the examiner's inquiry. But the applicant did not know why [C].

[C] testified that he believed that the [confidential] [C] were not material and that they might have been misleading to the examiner [confidential] [C] (Tr. 3477-78, 3496-97, 3500-01.) He noted that three substitute samples supported the theory that there was an unexpected difference in behavior in stretching thin starting material (under 0.75 mm) and thick material (over 0.75 mm). (Tr. 1491-92; RDB Ex. 31.) He noted that these test results appeared to be consistent with [C] previous conclusion that the [confidential] [confidential], and that it was therefore unnecessary to submit them to the PTO. (Tr. 3586, 3592-93.)

This position is untenable. The facts shouid have been disclosed to the examiner.

Instead, in the final version of the second declaration, the applicant argued that materials of at least 0.75 mm thickness always would form a Mercer-type profile. (RDB Phys. Ex. A at p. 023110; RDB Ex. 31, Tab K.)

The failed samples were material in that they surely would have been important to the examiner. If the examiner had received the information that was withheld, it would have been reasonable for him to have asked for more tests. He probably would have wanted to know why the w:d ratio was varied in different tests, what effect changing the w:d ratio would have on materials around .75 mm thickness, and what happened when the w:d ratio was varied as the starting material became thicker or thinner. As a result, the applicant might have made studies that would have shown the relationship between the size of the holes and the distance between the holes and the relationship between the distance between the

holes (w) and the thickness of the material to be stretched (d). Such tests would have shown that the w:d ratio was one of the factors that had to be considered in relationship to thickness to obtain a Mercer junction.

It was a breach of the applicant's duty to the PTO to submit only the test data supporting the applicant's theory, and to omit the inconsistent information that the applicant had. The applicant should have submitted all of the tests with an explanation, and left the examiner to make up his own mind. The omission was intentional. If there was no express intent to mislead the examiner, there was an intent to keep a potential problem away from him. Looking back at the facts now, it is not clear what caused the[confidential] [C] No tests were made that would keep one factor constant while varying the other factors, to isolate [confidential]. Although [C] initially thought that [confidential] [C], the applicant did not investigate even this.

The applicant suppressed information pointing out the importance of the w:d ratio, and urged the examiner to accept an argument that a minimum thickness of .75 mm was critical to obtaining a Mercer junction. If the w:d ratio is important to making the Mercer junction, then the thickness of the material must be in a certain relationship to the distance between the holes. That would be inconsistent with a rigid minimum starting material thickness of .75 mm. The applicant withheld tests that might support an argument that was inconsistent with the argument that distinguished hls invention over the prior art.

The omission of information from the second declaration bothered [C], who wrote to [C] about the problem. Apparently a decision was reached to confine the information to be submitted to the PTO to answering the specific questions that had been raised by

the examiner. In fact, the omitted information goes directly to an issue that the examiner had raised; the examiner had asked whether the .75 mm minimum starting material thickness was critical to the claims.

The applicant for the '946 patent (or persons acting on behalf of the applicant) failed to disclose to the examiner the results of material tests. The applicant knew or should have known that these tests would have been material to the examiner in deciding whether to allow at least some of the '946 product claims. The failure to disclose these tests was material because the applicant had argued that the thickness of the starting material was the critical factor in getting the Mercer product, when in fact the tests suggested that the w:d ratio was even more critical.

The applicant's actions involved more than gross negligence. The applicant knew the importance of the samples that were omitted. The applicant had a duty to show the patent examiner any information that might be important to him in deciding whether to allow the patent claims. Nevertheless, the applicant intentionally filed a declaration that did not include the failed samples or the applicant's previous theory about the significance of the w:d ratio. Submission of this information to the examiner could have delayed the allowance of the claims or caused the examiner not to allow the claims.

Another important omission from the second declaration was the failure to disclose that Mr. Martin had varied the w:d ratios in his tests on Kalwaites samples. For the thinner starting materials, he used w:d ratios that were outside of the ranges specified in the patents and the British priority application for the patents in suit. If the variance in the w:d ratios had been disclosed, the examiner probably would have questioned the criticality of the minimum

starting thickness in the Mercer claims. The examiner had asked for a comparison of materials of "different starting thicknesses with all other variables equal." (RDB Ex. 31, Official Action dated September 18, 1986.) Mr. Martin changed an important variable factor, the w:d ratio, and it probably changed the outcome of the tests. The applicant put his best foot forward, without offering the examiner any information that would raise any doubts about whether the .75 mm minimum thickness claimed by Mercer was critical.

Mr. Martin carried out some of the original tests that established the w:d ratios set forth in the '798 patent. (Martin, Tr. 1669-70.) He was aware that the w:d ratio was important in determining the shape of the junction. (Martin, Tr. 1478.) He was aware that the patents in suit indicated that the w:d ratio should be 6.35 or less for uniaxial structures and 4.25 or less for biaxial structures, to get the right amount of orientation into the junction. (Tensar Ex. 2, col. 9, 1. 41.) When Mr. Martin produced samples according to the Liu patent, he was careful to keep the w:d ratio constant while he increased the thickness in the samples up to the Mercer minimum thickness. (Martin, Tr. 1226-27, RDB Phys. Ex. EE.) Mr. Martin also was aware that if the w:d ratio in claim 6 of the '798 patent, 6.35. to 1, as exceeded, there would be a tendency for the junction to spread and for flat Kalwaites junctions to be formed. (Martin, Tr. 1479.)

Mr. Martin did not disclose the fact that the w:d ratio changed whenever the starting material thickness changed in the samples originally prepared for the second declaration. (Martin, Tr. 1222-23, 1228.) This was a material omission. The change in the w:d ratio could have caused the failure in the 1.5 mm and 2.0 mm samples. The importance of this ratio was not disclosed to the examiner.

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In the second declaration, the .13 mm sample was stretched in a 4 to 1 direction in the direction of the largest pitch. (Martin. Tr. 1673.) Changing the direction of the pitch also changes the w:d ratio. (Martin, Tr. 1674.) Mr. Martin's tests of starting material at .13 mm and .2 mm thickness were at w:d ratios in excess of 6.35. This was greater than 1.0, the recommended maximum w:d ratio stated in the British priority application. (Larsen, Tr. 2591-92; RDB Ex. 96.) The British priority application for the patents in suit recommends a w:d ratio of 1.0 or less for starting materials with round holes for materials under 1 mm in thickness. (Staff Ex. 28 at 17.) The Martin tests on starting material of .75 and 1.1 mm thickness were at w:d ratios of less than 6.35, and were within the range that should produce satisfactory orientation, according to the patent specification. (Martin, Tr. 1223.) Because a constant w:d ratio was not used in all the tests reported in the third declaration, the comparison set forth in Table 1 of that declaration is not valid. (Larsen, Tr. 2592-93.)

The failure to disclose that the w:d ratio had been varied in the tests that were submitted was material. It can be concluded that it was intentional, because the applicant knew enough about the w:d ratio to realize its significance. Moreover, the examiner had requested tests on various starting material thicknesses in which the other factors remained constant.

The third declaration

After the second declaration was submitted to the PTO, the examiner wanted more proof that a change in behavior occurred at a starting material thickness around .75 mm. (RDB Ex. 31, Official Action dated December 17, 1987.) The applicant's patent attorneys and Mr. Martin then had two meetings with the examiner. Test results on .13 mm, .2 mm, .75 mm, and 1.1 mm starting material

samples had been included in the second declaration, but the examiner continued to reject the claims, citing the Patchell patent. (RDB Ex. 31, Tab M.) The examiner indicated that the claims would be allowed only if unexpected results were shown at .75 mm. (Tr. 1516-17; Tr. 1649;). He was concerned that there was too wide a spread between the .2 mm sample and the .75 mm sample to show that there was a change in behavior close to . 75 mm. The examiner suggested a test on a starting material with a thickness of less than .75 mm, but greater than .2 mm, to prove that the change in behavior claimed by the applicant occurred at or near .75 mm. (Tr. 1516-17.)

It was decided that a test would be made on a .5 mm starting material. Mr. Martin understood that it was important to the examiner that this test be conducted under conditions (other than thickness of the starting material) that were the same as in the applicant's earlier Kalwaites tests, including the use of a 4 to 1 stretch ratio in a longitudinal direction. (Tr. 1518-20.)

Mr. Martin made a test on a starting material of .5 mm thickness drilled with the Kalwaites punch pattern, and submitted his third declaration to the examiner indicating that the 0.5 mm sample was consistent with the previous tests. It had failed to produce Mercer junctions. The examiner then allowed the product patent claims to issue. (Tr. 1649-50; RDB Ex. 31; Martin Declaration dated March 10, 1988.)

It was found under validity that the .75 mm minimum starting thickness limitation in most of the Mercer claims was not critical to the Mercer invention. Here, the issue is whether the applicant knew that, and did not tell the PTO. During the prosecution of the '946 patent, the applicant represented that the .75 mm thickness of the starting material was a critical point below which the claimed Mercer-type products could not be formed.

The applicant knew that this was not true. Early in his experiments Dr. Mercer had produced uniaxial products as described in his patents at starting thicknesses of .5 mm (Mercer, Tr. 525), and biaxial products from starting materials of .5 mm thickness with characteristics of the Mercer-type junction. (Mercer, Tr. 523-525.) Both Mr. Martin and Mr. Lyndon-Stanford were familiar with Dr. Mercer's early work with starting materials of .5 mm thickness. The British priority document (Staff Ex. 28) cited .5 mm as the lower limit based on this early experimentation. The applicant knew that .75 mm was a preferred limit, rather than a critical limit. The representations made by the applicant to the PTO that a minimum .75 mm starting material thickness was critical to the patent claims were false and they were material. The examiner had been asking the applicant to prove that the behavior of the material changed at or close to .75 mm, or in other words that the Mercer junction could be formed only when the starting material was at or above .75 mm in thickness.

When Mr. Martin made the tests on a .5 mm thick starting sheet with a Kalwaites punch pattern, he stretched the sheet under three conditions: in a longitudinal direction at a 4 to 1 stretch ratio; in a longitudinal direction at a 7 to 1 stretch ratio; and in a transverse direction at a 4 to 1 stretch ratio. (Tr. 1518-19.) Mr. Martin produced three or four samples under each condition. (Martin, Tr. 1518-19.)

Paragraph 2.2 of the third declaration (RDB Ex. 31. Tab M, ¶2.2), stated:

> Sample 1 attached shows results of stretching a 0.5 mm thick starting material, the starting material and the procedure being exactly as set out with the Sample 1 of my second Declaration, on page 22 of that Declaration, apart from the thickness.

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Mr. Martin understood that paragraph 2.2 of his third declaration referred to the sample with a 4 to 1 stretch ratio in his second declaration. (Martin, Tr. 1656.) Mr. Martin's third declaration states that Sample 1, produced from a .5 mm starting material, was stretched at a stretch ratio of 4 to 1. (Martin, Tr. 1252.)

In fact, the only sample attached to his third declaration was stretched in a longitudinal direction at a stretch ratio of 7 to 1 (Tr. 1252-53, 1520.) Sample 1 of the second declaration was stretched at a ratio of 4 to 1. (RDB Ex. 31, Tab K, p. 22; Tr. 1252.)

The difference between the 4 to 1 and 7 to I stretch ratios was material. After stretching the .5 mm starting material at a 7 to 1 ratio, the sheet had stretched to a uniform thinness, as did the .13 mm and .2 mm samples attached to the second declaration, that also did not form a Mercer-type junction. (Tr. 1533-34; Staff Phys. Exs. J, K.) But when the .5 mm material was stretched at only a 4 to 1 ratio, there was some thickening of the bar in comparison to the strand, and some orientation passed the notional tangent line. (Tr. 1523-28, 1532, Staff Phys. Exs. H. I.) Complainant contends that this thickening is at the edge of the sample, and is not representative of the sample. Even so, the sample stretched at a 4 to 1 ratio shows that some characteristics of a Mercer junction could be formed by stretching a .5 mm thick starting material. (Tr. 2721-23.)

Mr. Martin knew that some characteristics of a Mercer junction could be produced with starting materials of .5 mm thickness. (Tr. 1528, 1529.) In fact, Mercer junctions had been obtained in starting materials only .1 mm thick. (RDB Phys. Ex. F, Bazzocchi Tr. 2043, Porter Tr. 2309-11.)

Other samples .5 mm thick that were stretched at a 4 to 1 ratio

showed elements of a Mercer junction. A .5 mm thick sample with a Kalwaites punch pattern that was stretched in a longitudinal direction at a 4 to 1 stretch ratio, prepared by complainant for this litigation (Staff Ex. G), shows thickening of the bars at the ends of the sample and dips where the strands run into the junction. At the ends of the sample, orientation has entered the junction. (Martin, Tr. 1523-28.) A Netlong employee stretched two additional samples similar to Staff Ex. G. (Staff Exs. H and I.) They have thickened bars where orientation has entered the junction. (Martin, Tr. 1532.) Staff Ex. B (samples prepared at Netlon more than 6 months prior to the hearing) includes two Kalwaites-type samples stretched from starting materials .5 mm thick at a ratio of approximately 4 to 1. These show some thickening of the bars. (Martin, Tr. 1542-44; Staff Ex. B.)

In contrast, two .5 mm samples prepared for this litigation with a Kalwaites punch pattern that were stretched by a Netlon employee in a longitudinal direction at a 7 to 1 stretch ratio show no thickened sections. (Staff Exs. J and K; Martin, Tr. 1533-34.) Staff Exhibit J shows that orientation has pased through the bar. There is no thickened bar section because of the high stretch ratios. (Larsen, Tr. 2596-99.) The 7 to 1 sample would have gone through a stage where it had thickened bars before it was stretched to a uniform thickness. (Martin, Tr. 1534.) Professor McGown stretched a starting material .5 mm thick with a Kaiwaites punch pattern at a 4 to 1 stretch ratio, and observed a slight tendency to form cross ribs and bars, while at a 7 to 1 stretch ratio, the material was of uniform thickness after stretching. (McGown, Tr. 713-14.)

This information was known to the applicants agents but was not disclosed to the examiner. Instead, the .5 mm sample stretched at a 7 to 1 stretch ratio was submitted with the third declaration in support of the argument that the critical minimum starting material

thickness for producing Mercer junctions was somewhere between .5 mm and .75 mm. The information that was not disclosed was material because it showed that at .5 mm some aspects of a Mercer junction could be produced, and there was no abrupt change in behavior at or close to .75 mm.

Mr. Martin wrote a note on a draft of the third declaration that was given to Professor McGown before January 5, 1990 indicating that Sample 1 was stretched at a 7 to 1 ratio. This notation does not appear on the third declaration as filed with the PTO. (Martin Tr. 1254; McGown, Tr. 711-12; Staff Ex. 22.) Mr. Martin was aware that Sample 1 was stretched at a 7 to 1 ratio, and he understood that it was important to the examiner that the .5 mm test be made under the same conditions as the previous tests, including the use of a stretch ratio of 4 to 1. (Tr. 1518-20.) He understood that his third declaration described Sample 1 as having been stretched at a 4 to 1 stretch ratio. (Tr. 1656.) He reviewed his declaration before signing it under oath, and he compared the attachments to earlier drafts of his declaration. (Tr. 1518, 1676.) It was apparent to him that the sample attached to the third declaration was stretched at a 7 to 1, not a 4 to 1, stretch ratio. (Tr. 1520.) Mr. Martin was unable o explain why the wrong sample was attached to his declaration.

Sample 1 submitted with the third declaration was a stretched at a 7 to 1 ratio instead of a 4 to 1 ratio, and it did not disclose any Mercer junction characteristics. After the third declaration was submitted, the claims were allowed.

The applicant was aware that .5 mm starting material stretched at a 4 to 1 ratio would show some aspects of the Mercer-type junction, but that the same material stretched to a 7 to 1 ratio would

not. The failure of the applicant's agents to attach the sample stretched at a 4 to 1 ratio to the third declaration was material in that the differences between this sample and the one that actually was submitted were critical to the question that had been raised by the patent examiner. Intent can be inferred from the surrounding facts. Mr. Martin knew, or should have known, or easily could have determined by looking at the sample itself, that the wrong sample was attached to the declaration. In an affidavit filed in the concurrent district court litigation Mr. Martin stated that he had carefully reviewed his declarations again. (RDB Ex. 43, Par. 108.) He still did not point out that the .5 mm stretched sample attached to the third declaration was stretched at a 7 to 1 ratio, not at a 4 to 1 ratio as stated in the declaration. (RDB Ex. 43 at para. 108; Martin, Tr. 1547-48.)

OTHER ALLEGATIONS OF INEQUITABLE CONDUCT

Other mistakes or omissions were made in the [C] declarations but they appear to have been unintentional:

1. Mr. Martin represented twice in his declarations that a biaxial product could not be created in accordance with the claims in suit unless a uniaxial product was created after the first stretch, *i.e.*, unless orientation passed the notional tangent line on the first stretch. (RDB Ex. 31, Tab P at 18, Tab N at 4.)

This statement was false. In fact, Dr. Mercer thought that the biaxial products described in the patents in suit could be created without orientation passing the notional tangent line on the first stretch. (Mercer, Tr. 453-54; Staff Ex. 38.) Mr. Lyndon-Stanford also was aware of this. (Staff Ex. 38.)

There is no evidence that [C] knew that this statement was

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false. Its materiality is also questionable. If, for example, the patent examiner accepted the argument that a .75 mm minimum starting thickness was critical to the uniaxial product, he would not have doubted that the biaxial product required the starting material to be at least that thick. It would not have been necessary for the applicant to rely on an argument that the biaxial product could be made only from a uniaxial product meeting the claim limitations.

2. In making tests before filing his second declaration. Mr. Martin had made the failed samples discussed above, he had made the samples that were submitted with the second declaration, and he also stretched 1.5 mm and 2.0 mm samples at a 7 to 1 stretch ratio in a transverse direction. The samples stretched in a transverse direction were not disclosed to the PTO. (Martin, Tr. 1500-01; RDB Ex. 31, Tab K.) The photocopies of the 1.5 and 2.0 samples stretched in a transverse direction do not indicate any Mercer-type junctions. (RDB Phys. Ex. A, at p. 023148.)

These samples were material in the sense that the examiner probably would have wanted to know that starting materials greater in thickness than the minimum thickness of .75 mm would not make a Mercer junction when stretched at a 7 to 1 ratio in a transverse direction, but there is no evidence of an intent to mislead the examiner by foiling to disclose these samples to him. The applicant had disclosed that the Mercer junction could not be formed if the material were stretched so far that the junction flattened out entirely. (*See, e.g.*, Tensar Ex. 3, col. 2, lines 36-38. col. 5. lines 47-48.)

3. Respondents contend that the applicant engaged in inequitable conduct by failing to cite the following five prior art references in the prosecution of the patents at issue:

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1. U.S. Letters Patent 3,444,588 (the Mercer '588 patent);

2. U.S. Letters Patent 3,384,530 (the Mercer '530 patent)

3. United Kingdom Patent No. 1,058,445 (the Mercer '445 patent)

4. U.S. Letters Patent 3,365,352 (the Van Burleigh '352 patent); and

5. The 1970 Netlon Report.

The Mercer '588, '530, and '445 patents describe biplanar structures with oriented junctions. (RDB Exs. 2, 4, and 16; Tr. 389-90.) The 1970 Netlon Report also describes the orientation of biplanar structures. None of these references is more material than the prior art before the examiner. The patents in suit describe the use of uniplanar starting materials to avoid the problems created from the orientation of biplanar materials. Orientation into the junction of biplanar products creates strippable junctions. (Mercer, Tr. 3200-02.) The references relied upon by respondents are material because they disclose the orientation of the junction, but the same teaching can be found in the prior art that was before the examiner (the Mercer '208 patent, the Kalwaites '609 patent, and the Liu patent). The failure to disclose these prior art references does not establish inequitable conduct.

The Van Burleigh patent describes a structure with junctions that were oriented by compression with a roller, rather than by stretching, as in the patents in suit. This patent teaches the advantages of oriented junctions, but it is no more material than the prior art that was cited by the examiner.

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Respondents failed to show by clear and convincing evidence that the nondisclosed references were more material than the prior art before the examiner or that these references were withheld from the examiner intentionally.

4. Respondents contend that inconsistent statements made by Dr. Mercer about the Hureau patent (U.S. Letters Patent 3,252,181) in two different patent prosecutions constitute inequitable conduct. The first was in 1966 in the prosecution of the Mercer '588 patent (RDB Ex. 2, Tab A at 3) and the second was in 1987 in the prosecution of the '946 patent in suit (RDB Ex. 31, Tab E at 15).

The Hureau patent covers a number of different methods of die extrusion. Some methods could produce uniplanar materials and others could produce biplanar materials. Figures 1 and 2 show substantially uniplanar materials. (Mercer, Tr. 382.) The die configurations shown in figures 2 and 13 of the Hureau patent can produce biplanar or uniplanar materials. (Mercer, Tr. 384.) Dr. Mercer could have determined this from looking at these figures. (Mercer, Tr. 388.) Dr. Mercer was aware of the Hureau patent before the applications for the patents in suit were filed. (Mercer, Tr. 382.)

The applicant did not represent to the patent examiner in the prosecution of either patent that the Hureau patent produced only uniplanar or only biplanar materials. The statements in the two patent prosecutions, when read in context, are not inconsistent. But even if the statements were inconsistent, there is no evidence that Dr. Mercer during the prosecution of the '946 patent, recalled what had been written 21 years before in the prosecution of the '588 patent, or made inconsistent statements to the patent examiner with any intent to deceive. The record does not show that Dr. Mercer reviewed the file history for the '588 patent prior to this litigation.

(Mercer, Tr. 387-88.) If there were any inconsistent statements about the material produced by the Hureau patent, there is no evidence that there was an intentional misrepresentation.

5. In the prosecution of the patents in suit the applicant represented that only the strands of the product described in the Larsen '901 patent are oriented. In fact, the Larsen '901 patent prosecution disclosed orientation extending into the junction. Respondents contend that Dr. Mercer knew that his statement was not true, because orientation into the junction had been disclosed in affidavits filed by Ronald Larsen in 1973 in an opposition proceeding between Netlon Ltd. and Conwed Corporation concerning the '901 patent. (RDB Ex. 15.) Dr. Mercer responded to Mr. Larsen's 1973 affidavit, but there is no evidence that he intentionally misrepresented the Larsen '901 patent in the prosecution of the patents in suit. The '901 controversy occurred in 1973, when Dr. Mercer reviewed the Larsen affidavits, while the statement about the '901 patent not showing orientation into the joint was made on behalf of Dr. Mercer to the PTO in November, 1987 in connection with the prosecution of the '946 patent in suit. (RDB Ex. 31, Tab E at 15.)

SUMMARY

Several of the false statements made in the [C] declarations were material, and material information was omitted from the declarations. A reasonable examiner would have wanted to see the information that the applicant withheld. The examiner did not have enough information to determine what elements played a part in making a Mercer junction and what relationships between various elements were necessary before one could be made.

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The applicant's agents failed to disclose information that would have hurt the applicant's chances of getting the claims allowed. The failure to disclose helped the applicant overcome the examiner s earlier rejections of the claims. When the applicant's agents learned that the argument they had been making was not supported [confidential], they should have submitted this information to the examiner regardless of whether he had requested it. Precisely because these [C], the examiner was not in a position to know what further information to request.

From the surrounding circumstances it is hard to escape the inference that material information was withheld intentionally. While there might be some room for doubt as to whether some of the false statements were intentional, the applicant clearly failed to meet the duty of candor owed to the examiner in an *ex parte* application for a U.S. patent when the applicant's agents intentionally decided not to submit material information to the examiner.

One reason that Tensar gave for [C] was that the information would have tended to confuse the examiner. This argument is patronizing. An examiner does not want to have the applicant sift out the difficult information for him, and withhold material information because it might be too hard for the examiner to understand. The opposite is true. The patent prosecution in this phase is an *ex parte* proceeding, and the examiner needs all of the material information that he can get, so that he will not just review the one-sided and self-serving argument presented by the applicant.

There is clear and convincing evidence that of the agents of the applicant, acting on his behalf, intentionally withheld material information that the applicant had a duty to disclose. This made it

easier to overcome the earlier rejections of the claims by the examiner. As a result, the patent claims were allowed.

It is found that the applicant engaged in inequitable conduct before the PTO, and that the '946 product patent is not enforceable.

The '798 process patent was issued in 1983, three years before the [C] declarations were filed. There is no evidence of any inequitable conduct in connection with the prosecution of the '798 patent. Although one 1933 case indicated that unenforceability may extend beyond the particular patent to other patents, *Keystone Driller Co. v. General Excavator Co.*, 290 U.S. 240, 246 (1933), most courts have found that only the patent obtained by the inequitable conduct is unenforceable. The '798 process patent is enforceable.

* * *

CONCLUSIONS

[156-157]

All of the asserted claims of the '946 product patent and the '798 process patent are invalid under Section 103 of the Patent Act and therefore cannot be infringed. Claim 11 of the '946 patent is invalid under Section 102(b). None of the other asserted claims is invalid under Section 102(b). No claims are invalid under Section 102(f) or Section 112. The '798 patent is not unenforceable due to inequitable conduct.

Respondents have not engaged in an unfair act under Section 337 of the Tariff Act in connection with the importation of geogrids that infringe the '946 product patent or that were made by a process that infringes the '798 process patent because these patents are invalid.

Appendix D

The pleadings record includes all papers and requests properly filed with the Secretary in this proceeding. The evidentiary record in this proceeding consists of RDB Exhibit 69, Staff Exhibit 43, Staff Physical Exhibit L and all exhibits identified in Tensar Exhibit 1, RDB Tenax Exhibit 1 (except RDB Tenax Physical Ex. JJ) and Staff Exhibit 1. The evidentiary record which also includes the transcript of the testimony at the hearing, is hereby certified to the Commission.[2]

s/ Janet D. Saxon
Janet D. Saxon
Chief Administrative Law Judge

Issued: September 20, 1990

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2. Pursuant to § 210.53(h) of the Commission's Rules, this initial determination shall become the determination of the Commission unless a party files a petition for review of the initial determination pursuant to § 210.54, or the Commission pursuant to § 210.55 orders on its own motion a review of the initial determination or certain issues therein. For computation of time in which to file a petition for review, refer to §§ 210.54, 201.14, and 201.16(d).

APPENDIX E
EXCERPTS FROM UNITED STATES DISTRICT COURT FOR THE DISTRICT OF MARYLAND CIVIL ACTION NO. H-89-424 TRIAL TRANSCRIPTS

* * *

[Page 3103]

JOHN WITHERSPOON

WAS THEN DULY SWORN TO TELL THE TRUTH

* * *

[Page 3304]

Q What testimony do you rely on that says that somebody copied the process, the steps that you have identified?

A It is my understanding that RDB was asked by a customer to produce products of the type we are talking about here and that they reported to that particular method, which turns out to be an infringement.

If you are asking whether they had detailed specification, and so on, in that sense, no.

But in the sense of deliberately trying to make a product of the type produced by the patent and reporting to a process which turns out to be an infringement of this process, in that sense, yes, there is copying of this process.

* * *

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[Page 3656]

THE COURT:

* * *

[Page 3657]

When we get to the question of whether or not the evidence can be presented concerning lost profits, I found the *Milgoe* case very instructive. That is the Tenth Circuit case. The court said this, at page 663:

> In order to recover lost profits, rather than merely a reasonable royalty in a patent infringement action, the patent holder must demonstrate that but for the infringement, he would have made the sales that the infringer made. No presumption operates in the patent holder's favor that he would have made the sales in question.

So, what you do then is apply those principles to the facts of each case. In this particular case, I am satisfied that the facts are not such that Tensar can put in what it wants to. I would rely on the case cited in *Milgoe, General Electric Co. v. Sciaky Bros., Inc.*, 415 F.2d 1068 (6th Cir. 1969). There is simply an absence of proof here. Indeed, when we look at the proposed exhibit, there are some 65 items here, and I think there is proof only as to 16 out of the 65 that

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* * *

[Page 3658]

Tensar bid. That simply is not sufficient.

In the *Electric Pipeline* case, there were 22 of 37 sales that were proved, a much higher number. Also, there was proof indicating that the party was prevented from bidding on certain others.

In this particular case, Tensar has been able to furnish proof of certain items that they bid on. It is not clear to me why they could not have done that as to others. The burden here is on Tensar to prove that they can go forward and show lost profits. There are too many other factors here indicating, as previously discussed, a non-acceptance of this product.

I don't find, as we had in the Milgoe case, that there were only two competitors in the market. There, the court said that the record fully supported the conclusion. This was a conclusion as a matter of law that the two were the only viable competitors in the market. Here, there is evidence of non-acceptance, and there is evidence of skepticism. We don't know whether or not Tensar was willing to bid on these roughly 50 other jobs. So, the evidence is simply insufficient to be introduced in that manner.

* * *

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[Page 3326]

DANIEL JOHN HARRINGTON

WAS THEN DULY SWORN TO TELL THE TRUTH

DIRECT EXAMINATION

* * *

[Page 3712]

Q Now, during this period of time, you sold $27,129,000, is that correct, roughly?

A That is correct.

Q Of these products?

A Correct.

Q And during roughly the same amount of time, from Tenax's own invoices, you claim that Tenax, from February 23, 1989, sold approximately $552,000 worth of products that you claim infringed the patent in suit; isn't that right?

A Yes, that is correct.

Q Let me represent to you that I have done the math on this. If you compare $27,100,000 to $552,000, you get about 2 percent for RDB/Tenax and about 98 percent for Tensar. Have you Done the math?

A No, but I will take your word for it.

APPENDIX F
EXCERPTS FROM JUDGMENT OF THE HIGH COURT OF JUSTICE, CHANCERY DIVISION, PATENTS COURT DATED JULY 30, 1992

IN THE HIGH COURT OF JUSTICE
CHANCERY DIVISION
PATENTS COURT

CH 1990 P No. 6563

Royal Courts of Justice,
Thursday 30th JULY 1992

Before:

MR. JUSTICE ALDOUS

1) PLG RESEARCH LIMITED
(2) NETLON LIMITED

Plaintiffs

-v-

(1) ARDON INTERNATIONAL LIMITED
(2) TENAX SpA
(3) RDB PLASTOTECNICA SpA
(4) MARIO BERETTA

Defendants

(Transcript of the Shorthand Notes of Marten Walsh Cherer Ltd., Midway House, 27-29 Cursitor Street, London, EC4A 1LT. Tel. No: 071-405 5010.)

Appendix F

MR. NICHOLAS PUMFREY QC and MR. J.D.C. TURNER (instructed by Messrs. Taylors, Blackburn) appeared on behalf of the Plaintiffs.

MR. SIMON THORLEY QC and MISS D. McFARLAND (instructed by Messrs. Bird & Bird, London, WC1) appeared on behalf of the Defendants.

JUDGMENT
(As approved by Judge)

[1]

MR. JUSTICE ALDOUS: In this action the first named plaintiff (PLG Research Limited) is the registered proprietor of the three patents in suit, and the second named plaintiff (Netlon Limited) is the exclusive licensee under those patents. They allege that the patents have been infringed by Ardon International Limited, Tenax SpA, RDB Plastotecnica SpA and Mr. Mario Beretta.

Ardon is an English company that has imported into the United Kingdom and sold the products alleged to infringe. Thus, it is accepted by all the defendants that, if the products fall within the ambit of the patents and the patents are valid, Ardon has infringed.

Tenax is an Italian company which, prior to 13th May 1990, sold the alleged infringing products to Ardon. RDB, the third defendant, is also an Italian company and it sold the products to Ardon after 13th May 1990.

Mr. Mario Beretta, the fourth defendant, is a member of the

family which owns most of the shares of Tenax and RDB and is, under Italian law, the sole administrator of RDB.

As against Tenax and RDB, the plaintiffs allege that each of them is liable as a joint tortfeasor with Ardon as the alleged infringing acts were procured by them or were carried out as part of a common design. As against Mr. Mario Beretta, it is alleged that he caused and procured Tenax and RDB to act as joint tortfeasors and is therefore liable for their tortious acts.

[2]

The defendants deny infringement, seek a declaration of non-infringement and allege that the patents were at all material times invalid. They also counterclaim for revocation of the patents. Thus, the basic issues are: (1) Has Ardon infringed the patents? (2) Are the patents valid? (3) If so, are Tenax and RDB jointly liable with Ardon for the infringing acts carried out by Ardon? (4) If so, is Mr. Mario Beretta also liable for the infringing acts?

Two of the three patents in suit were applied for in 1978 and claim priority from the same priority documents. Patent no. 2035191, which I shall call the Biax Patent, relates to an invention entitled "Plastics material mesh structure". The invention relates to a method of producing a plastics net and the resulting net. In outline, the method claimed to be inventive requires use of a substantially symmetrical plastic material with a pattern of holes therein and stretching it in two directions at right angles to produce a net with molecularly orientated strands and junctions.

Patent no. 2073090, which I shall call the Uniax Patent, is a divisional of the Biax Patent. The invention of this patent only covers stretching the starting material in one direction to produce a

net. In essence, the Uniax Patent covers the first stretching operation carried out to complete the biaxial stretching.

* * *

[33]

Even if it is possible, with the use of the photographs and the help of counsel, to steer a line between the alleged infringements and the alleged prior art, I cannot believe that the line is one which would have been drawn by the skilled addressee in 1980. He would read the patent and appreciate that the problem the invention sought to overcome was described by reference to net produced from flat sheets. He would have concluded that the departures from uniplanarity that the patentee was saying were insubstantial were the sort of departures that could occur in manufacture when working or extruding a flat sheet. Thus, using his knowledge of what was available in 1980, he would have been able to decide what was substantially uniplanar. The line sought to be drawn by the plaintiffs appears to me to be a shifting line drawn for convenience of the result, rather than through the eyes of the skilled addressee seeking to apply the protocol in 1980. I

[34]

conclude that the defendants have not infringed the Uniax Patent.

Infringement - The Biax Patent

TT AMP materials were not stretched biaxially and therefore the only structures alleged to infringe the Biax Patent were the old LB0 AMP and new LB0 AMP structures. Having regard to the conclusion I have reached in relation to the Uniax Patent, these materials do not infringe. The starting materials are not substantially uniplanar as required by the claims.

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The defendants also submitted that the products did not infringe as parts of the junction of the orientated finished product were less than 75% of the mid-point of the strands. The plaintiffs measured samples of the products at the part of the junction which is in the line of the strands. The results (bundle 13(a)/tab G) show the thickness exceeded 75% of the mid-point of the strands. The defendants measured the maximum strand thickness of the products and the minimum thickness in the junctions, being the area which is not strand. Their results (bundle 14(c)/tabs L and M) show mean percentage ratios from 59% for new LB0 301 AMP mandrel face to 72.5% for the outer-face. The mean figure lay between 60% and 72%. The defendants' experiment C (bundle 14(a)/tab C) visually shows the areas which are below the 75% minimum laid down by the claim.

* * *

[35]

Having construed the word "junction" in the claim as meaning the part which is not strand, I conclude that the defendants have carried out pertinent measurements. I have also decided that, giving the claim a purposive construction, the skilled addressee would not exclude from the claims junctions which did not in every part exceed the 75% limitation. However, I have not found it easy to decide whether the skilled addressee would read the 75% limitation as excluding the amount which, in the defendants' products, are below the required thickness. The evidence is of no real help, but, if the defendants' products had differed only by this feature, I would have held there was infringement.

I conclude that the Biax Patent has not been infringed, because the defendants' starting materials were not and are not substantially uniplanar.

Appendix F

* * *

[71]

Having concluded that claim 1 of the Biax patent is

[72]

invalid as it was obvious, I have considered the other claims alleged to have independent validity. No separate submissions were made to support such claims, and I conclude that they add nothing inventive. Similarly the claims alleged to have independent validity of the Uniax patent are also obvious as they cover the first stretching operation of the Biax patent.

* * *